Submarine TITANS

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Intro

After the strike of the Clark Comet in 2047 the surface of the Earth was wiped clean. Only a fortunate few tens of thousands of humans survived, huddled in subterranean vaults and submerged installations.

Nature landed another series of blows, a twelve-year winter followed by the rapid heating of the Earth's oceans and melting of the icecaps. Water levels rose by more than 60 feet and humans remaining on land were forced to subsistence levels, eking out a meager living in small communities.

In the sea the survivors were more fortunate. The sea floor was only slightly affected by the calamities on the surface and their computer banks of knowledge remained intact.

By the 22nd century the two powers that had defied the Comet and fought for world control had reestablished communication with the scattered undersea colonies. Two rival civilizations arose, the White Sharks, eager for dominance, and the Black Octopi, seeking balance with the Earth and prepared to enforce it with all the weapons at their disposal.

The factions grew even more powerful with the discovery of Corium 276, a previously unknown element carried to Earth by the Clark Comet, essential in powering bases and subs. Trade began with the surface and both sides used technological 'magic' to dominate large areas.

The White Sharks remembered the failure of their plans 60 years earlier. In 2105 they began building a military machine to destroy the Black Octopi. The Black Octopi remained unaware, developing their technology and expanding their industrial base.

Seeking new sources of Corium in 2110 the Black Octopi discovered an abnormally high concentration in the crater left by one of the largest Clark fragments to strike Earth. While exploring the region, several subs were destroyed by unknown forces and the Black Octopi quickly sent a larger taskforce to investigate. What they found was an alien race of creatures with advanced technology who aggressively attacked any units in the crater area. Upon receiving this news the Black Octopi began to build their own military force to protect their holdings.

By 2115 the White Sharks' high command, unaware of the Black Octopi build-up, deemed their forces ready for war against their pre-comet enemy and launched a pre-emptive strike.

Reeling from the blow, but more prepared than the White Sharks expected, the Black Octopi moved part of their force to suppress the aliens and the rest to defend their civilian bases against the massive attack.

This is the world of Sub Titans.

Timeline

2037 Astronomers around the world realize that the Clark Comet's orbit will cause it to collide with Earth in 2047. Worldwide panic and economic depression ensues in the developed world and several nations begin local conflicts to gain strategic mountainous or resource-rich terrain that they believe is vital to survive the collision.
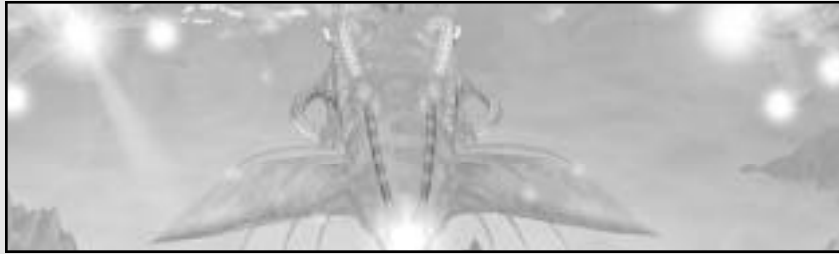
2038 Ecological organizations receive massive funding increases. Effective marketing campaigns focused on their activities to protect and preserve life on Earth strike a chord with the panicked population. The major environmental organizations buy ailing major corporations and form a conglomerate with business interests that crosses all spheres. EcoOctopus, as the hybrid organization becomes known, begins following ecologically driven business strategies and experiences a sales boom as consumers feel that 'someone is doing something' about the crisis.

2039 An organization is created under the auspices of the United Nations with military leadership named the UN Combined Earth Defense force (UNCED). The body begins negotiations with world governments on a global defense strategy involving elements of each nation's scientific and military forces. UNCED is given the power to militarily intervene in local conflicts to safeguard supplies, personnel and resources vital to the world's defense.

2040 Several previously stable countries fall into anarchy and UNCED imposes order using force under the guise of safeguarding vital supplies and personnel. Members of the organization are nicknamed 'Sharks' as the organization has 'teeth' and isn't afraid to use them. Shark operatives begin extending their influence into many stable governments, ostensibly an extension of their UN mandate.
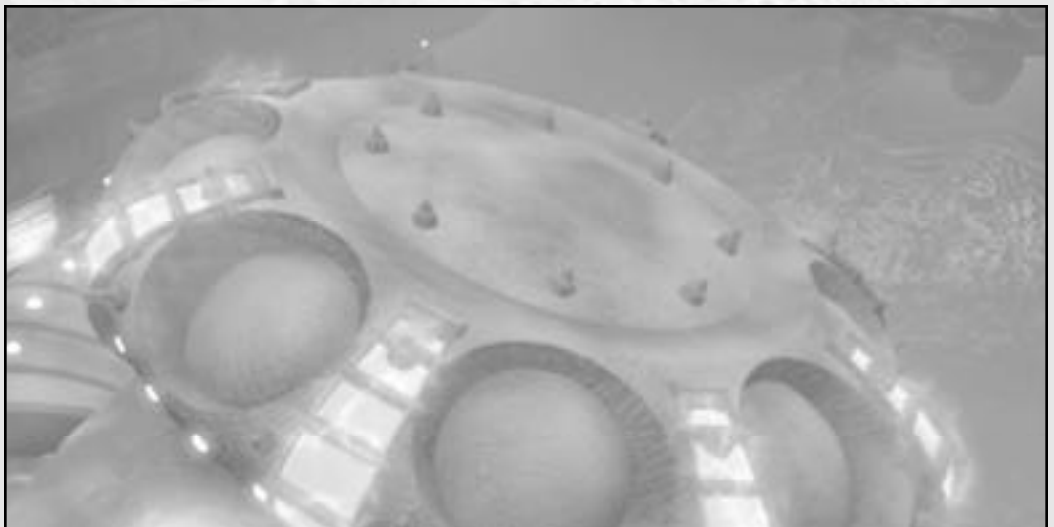
2040 EcoOctopus buys vast sections of undersea 'land' and begins construction of farms, habitats and commercial concerns. New techniques in mining permit exploitation of undersea resources, and new building techniques are developed based on space technology to cope with implosive water-pressure, 'weightlessness' and other challenges of full-time life undersea. Simultaneously, EcoOctopus begins developing major commercial space habitats with the aim of providing self-sufficient orbiting habitats around Earth and other planets within 5 years.

2041 The first major undersea habitats are opened to colonists – they are promoted as the new frontier and secure from a comet strike. Colonists are asked to pay vast amounts of money to 'live and work in an undersea paradise.' As the world's elite rush to take advantage of this security, they discover that EcoOctopus owns and sells all oxygen. To many, the colonists seem virtual servants of the organization.

2041 UNCED 'Sharks' begin development of a doomsday laser designed to disintegrate the Clark Comet before it reaches the Earth. The project is rife with corruption and competing factions within the organization squabble. Meanwhile, the organization's leaders begin construction of their own undersea habitats. These structures are primarily military bases and huge factories, built with the justification that the organization and its leadership need to survive the strike to maintain world order. UNCED clandestinely takes over the governments of various countries, an extension of its mandate to ensure the 'correct' distribution of vital resources.

2041 EcoOctopus scientists make a breakthrough in the principles behind matter transmission and begin working on a prototype system. 'Teleporter' technology is viewed as a potential way to reduce the anticipated death toll by shunting people to protected areas. Shark operatives steal the documentation behind the system for their own project.
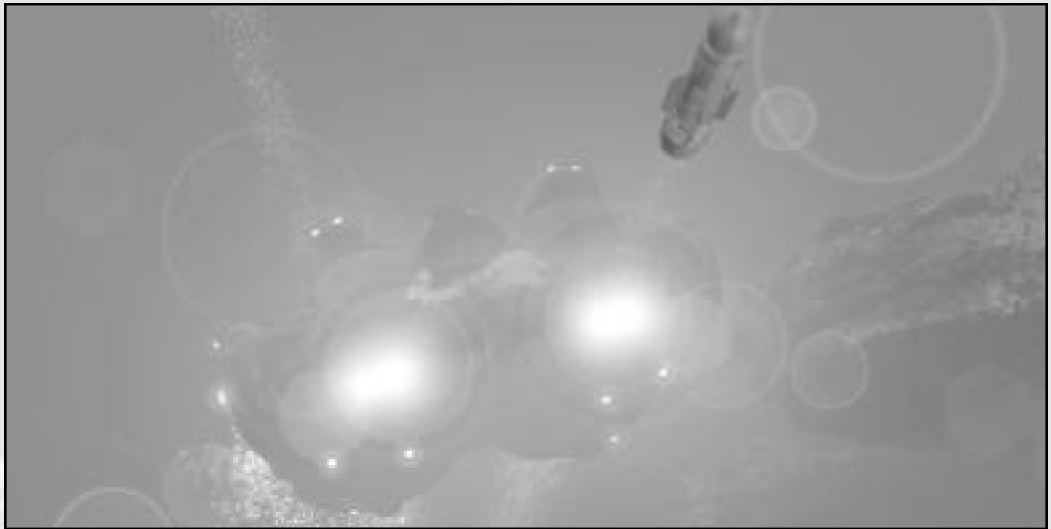
2042 The 'Doomsday laser' project is abandoned due to 'time constraints.' UNCED gains UN endorsement for taking control of the majority of nuclear materials and production facilities. Uncooperative nuclear scientists are placed under house-arrest, and a major research facility is established in central Australia to develop nuclear satellite bombs to disperse the comet. The Sharks also appropriate the EcoOctopus space habitat program as a launching platform (with the rubber-stamping of the UN) and begin converting all space assets available into nuclear weapons. Major world governments are allowed to retain a fraction of their nuclear ballistic missile strength. The Sharks' claim to have ended the arms race and use the favorable PR to gain further power in major countries.

2042 EcoOctopus becomes aware of the Sharks' the strength in world politics after unsuccessfully lobbying to preserve their space program. The organization begins nurturing third world governments deemed unimportant by UNCED, promising them the technology to build safe havens for their governments undersea and in space.

2043 An anti-comet missile program is begun by UNCED. The remaining sovereign government ballistic missiles are placed under UNCED control.

2045 The satellite bomb program is completed, with 51 nuclear satellites launched into position ahead of the comet. EcoOctopus launches a major military offensive on UNCED, using local government armies and militias to regain control of large areas of North America and Europe. The UN continues rubber-stamping UNCED, but collapses when US patriots conquer New York. The UNCED leadership is forced to flee to their secret undersea bases, but not before their forces assault EcoOctopus strongholds. Many EcoOctopus bases are destroyed by elite Shark troops. However, the organization remains intact due to the support of its third world allies. The promising Teleporter program is abandoned as the destruction of research facilities means that neither side has the resources to proceed.

2045 The Silicons enter the Solar System short on fuel and looking for a source of high quality and easily extractable Corium. They settle on the Clark Comet, estimating there to be sufficient time for their craft to refuel and leave the Comet before impact. The impact with Earth is deemed an important scientific event, and the Silicons plan to remain in the solar system for a number of years to evaluate the planet's native species pre- and post-impact behavior.

2046 North American and European governments take control of all UNCED assets on their continents, including resources from the incomplete anti-comet missile program. Africa, South America and Asia remain contested areas as independent warlords, governments and the Sharks and EcoOctopus are in constant conflict. Australia remains a UNCED stronghold with over 70% of the world's available nuclear capacity. Remaining governments refrain from acting against the continent to avoid nuclear retaliation. Antarctica is abandoned despite its resource reserves, as neither side has the resources to stretch a hand out to take them.

2046 The Clark Comet (with attached Silicon spacecraft) encounters the nuclear satellite grid. While many malfunction, 27 satellites explode near, or in contact with, the Comet, which breaks into 46 major pieces and thousands of smaller ones. The Silicon spacecraft is badly damaged but not destroyed and is able to use the mass of a major comet fragment to shield the craft during atmospheric entry. The craft has sufficient power to land, but after impact is crippled, destroying the craft's information storage facilities. The surviving crew is marooned on Earth.

2046 North America and Europe launch their ballistic missiles at the major comet fragments in a last-ditch attempt to divert part of the Comet's mass. UNCED uses this opportunity to launch nuclear and conventional strikes on land bases and undersea habitats owned by EcoOctopus and other powers hostile to the organization. EcoOctopus and its allies retaliate, and both sides are crippled. UNCED regards this as a successful strike despite losing many far-flung facilities, because its major bases in Australia are virtually undamaged.

2046 Major comet fragments rain down over the planet during 14 hours of terror, destroying most major cities and other areas. Central Australia is hit by one of the largest fragments, destroying the UNCED facilities. Tidal waves wash across all continents, destroying everything in their paths. However, the undersea habitats are untouched.

2047–2059 Earth suffers major cooling due to the debris in the upper atmosphere. The 12-year winter destroys the remaining crops, and the struggling human communities on land face starvation. The undersea habitats are reduced to subsistence levels, losing their ability to trade with other habitats.

2060–2090 The Earth begins heating up at a phenomenal rate in what becomes known as the Burning Summer. This counteracts the cooling, averting an ice age, but also melts much of the polar ice caps, and over time ocean levels rise by 15 meters. This temperature increase is believed to be caused by the strange mineral (Corium) discovered in comet fragments.

2085–2095 The remaining EcoOctopus and UNCED undersea habitats discover Corium 276 near comet fragment strikes. They develop the means to harvest the energy of this radiating element and begin building up their bases and renewing contacts with surviving habitats.

2100 The remaining humans on land begin organizing themselves into feudal societies. In time, they will contact the more 'advanced' undersea communities and begin to trade food for resources. The undersea organizations become known as Corium hunters, and their names change from UNCED to White Sharks and EcoOctopus to Black Octopi.

2105 The White Sharks begin rebuilding their military. As their oldest remaining documents reveal, they plan to defeat their undersea rivals, and then reclaim the Earth's surface. The Black Octopi focus on peaceful scientific development and providing ecologically sound solutions. They aim to turn the Earth into an ecological paradise.

2107 Teleporter technology is perfected by a new team of scientists. This technology is only useful for short trips, and attempts to increase the transit distance are unsuccessful.

2110 The Black Octopi begin investigating the crater left by one of the largest comet fragments, and discover a strange species of silicon-based creatures who fight them off. The Black Octopi organization begins gearing up its militia to defend its cargo vessels against this alien species.

2115 The White Sharks are satisfied with the development of their military machine and launch their first strike against the Black Octopi. They aim to wipe them out rapidly, and then capture and use the Corium resources to enslave the land.

The Submarine Titans Interface

This chapter covers the workings of the Submarine Titans game interface. The default hotkeys will be listed where applicable, but you may customize them as you see fit in the Submarine Titans Configuration file, usually located in the same folder on the Start Menu as the Submarine Titans game.

Submarine Titans Editor

Submarine Titans includes a powerful and easy to use editor for creating your own levels. If you need information regarding the use of the editor a rather comprehensive help file has been included with Submarine Titans. Simply access the Submarine Titans Senario Editor help file off of your Windows Start Menu in the same folder as the shortcut that is used to launch Submarine Titans.

Submarine Titans Configuration Program

There is an additional Submarine Titans configuration program you may access from the Start Menu (in the same folder as the Submarine Titans game). From this utility, you may adjust many game factors, including player names, video and audio settings, all game file paths, and all the available in-game hotkeys. It is not typically necessary to modify anything in this program to make Submarine Titans work correctly, but it does allow you to customize Submarine Titans to your specific liking.

Menu Navigation

Before you actually get into a game of Submarine Titans, you will first need to navigate a few menus.

Main Menu

This is the initial screen you see whenever you start up Submarine Titans. Any option that 'Returns to the Main Menu' will return to this screen.

Solo Game

All single-player games are accessed from the Solo Game menu. This includes the Campaigns, Battles, Tutorials, Add-on Missions, and Load for previously saved Solo Games.

Network Game

All multi-player games are accessed from the Network Game menu. Submarine Titans offers the choice of IPX/LAN Network Games, Internet/TCP for direct IP games, Modem Connections for direct games, Serial Connections for direct games, and access to the Free Standard Game Server (FSGS) game locator service.

Campaign Statistics

This feature allows you to track your Campaign progress in any of the three, faction-specific, single-player Campaigns.

Select Player

Select Player allows multiple people to play Submarine Titans from the same computer, without affecting each other's statistics. From here you can create/delete player IDs, or select a player from a list of previously created IDs. To create a new player, simply type the name in the topmost box and click the OK button.

Exit

Returns you to your operating system (the Windows desktop).

Solo Game

Campaign

A Campaign is a series of story-driven single-player missions. Each faction has a unique Campaign that depicts their struggle to claim dominance in the world of Submarine Titans.

Battles

Battles are independent games set on randomly generated or predefined maps. Each Battle is separate and has no effect on any other Battles you wage.

Load

Allows you to Load a previously saved single-player game.

Add-ons

Any non-standard Campaigns you may have downloaded from the internet are accessed from the Add-ons menu.

Tutorial

Each faction has a brief Tutorial, a learning scenario that will help teach you the faction basics and game controls.

Campaign

From here you may decide whether to start a White Sharks, Black Octopi, or Silicon Campaign. Each one is unique, providing hours of replay value. Simply select the side that you wish to play for and click the Start button.

Battles

Each Battle can be customized to your preferences before the match starts. If you wish to play on one of the pre-created maps, left-click on the map's name from the list. Information on the map will appear in the left box detailing size, number of players, and map objectives. You may bring up more Battle options by hitting the Settings button. Hitting the Random button will take you to the random map generation screen. Multi-player Battles are set up like single-player Battles, with the exception that at least some of your opponents will be human players.

Random

If you do not wish to use one of the default Battle maps, you may choose to use a Random map. You can alter the size of the map, number of players, map texture, resource abundance, gold density, and mountain abundance. Once the appropriate selections have been made, simply click "Generate Map" and a map will be randomly created for you.

Settings

Game type			Kill All	
Starting resources level	MEDIUM	Gold density level		MEDIUM
Starting tech level	LOW	Maximum tech level		HIGH
Maximum units per side	UNLIMITED	Starting objects set		SET 1
Fog of war ✓	Team play game		Ally visibility	✓

The Settings bar allows you to customize the style of game to play. Each Settings option is described below:

Game Type

Kill All
This is the default game type for single-player and multi-player matches. Your goal is to destroy every non-allied unit and structure on the map.

Kill All Without Minerals
Kill All Without Minerals is like the Kill All game type, but there are no harvestable minerals on the map. Instead, each player is allotted a certain amount of resources at various time intervals.

The Flagship Hunt
Leading each force is a flagship. To win, your side must find and destroy the flagship of every opponent.

Starting Resources Level

Sets the relative amount of resources that each side has at the beginning. High means more of each initial resource, while Less means fewer resources.

Gold Density Level

The higher the Gold Density Level, the easier it is to sublimate gold from seawater.

Starting Tech Level

Determines the relative level of technology for each player at the beginning. The higher the setting, the more initial technology the player has.

Maximum Tech Level

Sets the upper limit to which technology can be researched. The lower the limit, the less technology will be available.

Maximum Units Per Side

Determines the maximum number of structures and submarines each side can build. Decreasing the maximum units allowed per side may help reduce latency (lag) in multi-player games as well as increase frame rate in single-player games.

Starting Objects Set

This controls which submarines each player initially controls. The Sets for each faction are as follows:

	Black Octopi	**White Sharks**	**Silicons**
Set 1	1 Assembler	1 Constructor	3 Capsule-Prototypes
Set 2	1 Assembler 2 Fighters 1 Destroyer	1 Constructor 2 Sentinels 1 Hunter	3 Capsule-Prototypes 3 SHS Subs
Set3	1 Assembler 2 Fighters 1 Destroyer 1 Heavy Cruiser 1 Marauder	1 Constructor 2 Sentinels 1 Hunter 1 Cruiser 1 Raider	3 Capsule-Prototypes 3 SHS Subs 1 Escort 1 Usurper

Fog of War

When turned off, the map will be completely revealed, and everyone will always have a full view of the entire map, and all players will be able to see exactly what every other player is doing. When enabled, Fog of War 'blacks-out' unexplored regions of the map, and 'grays-out' explored areas not currently occupied by a player's unit.

Team Play Game

When enabled, this feature requires each player to join one of 8 possible teams. Players on the same team will play the entire match as though they are permanently allied.

Ally Visibility

When turned on, any allied players will share map information and can effectively see through their allies' eyes.

Allow Computer Assistants

This toggle allows you to enable/disable the computer controlled helper system that can normally be selected during a Battle.

Allow Spectators in the Game

If enabled, non-combatants will be able to watch the game's events, but will not be able to intervene. Spectators are assigned to a player and will be able to watch the game through that player's eyes. Chat messages sent by spectators are visible to all game players.

Sonar

Clicking on the Sonar mini-map will reveal the starting location for each player. Clicking on the Sonar map again will hide the starting locations.

Customize Players

When changing the settings, you will also be able to customize each player's starting color, faction, team, and controller. In single-player Battles, you will control whichever side is set to Human, and the AI will play any faction not set on Disable. Alliances or Teams will display to the right of the player's name.

If you wish to allow more players to fight on your faction during a Team Play Game, click on the arrow to the left of your player's name.
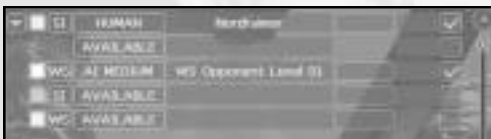
This allows new players to sign up under your faction and share in the control of your units and resources. This setup is also how Spectators join up to watch.

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Load

Any previously saved Solo Games can be accessed from the Load section. The menu breaks down your list of saved games according to Campaign saves, Battle saves, and Add-on mission saves. Simply click on the tab to view that list of saved games. Click on a game from the list and hit Load to resume your saved game.

Add-ons

The Add-ons menu lists all available custom Campaigns. To begin an Add-on, click on one from the list and hit the Start button.

Tutorial

A short Tutorial is provided for each of the three factions. Tutorials are designed as low-intensity training battles. Basic functions such as construction, harvesting resources, and managing your fleet are covered. To begin one of the three Tutorials, click on one of the faction names and hit the Start button. A short mission briefing will follow. To begin the Tutorial, you simply hit the Start button once again.

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Network Game

All games involving multiple human players are set up from the Network Game screen. Multi-player games are handled in nearly the exact same fashion as a single-player Battle. The most noticeable difference is the chat feature, which allows players to relay messages back and forth during setup and during the game. Before you begin a game, you must select a method of playing. There are five different ways to connect to other players in Submarine Titans. To join a game, highlight one of the four game types from the list and hit Join. To host a new game, highlight one of the four options and hit New. The FSGS uses its own system to host and join games, which is explained below. Submarine Titans uses Microsoft's default DirectPlay ports for Internet games. Some network firewalls may block the ports Submarine Titans needs. If you suspect a problem, contact your network administrator.

IPX Connection for DirectPlay

If you are connected by a LAN (Local Area Network) to other computers, you may select a multi-player IPX game. All computers involved must be configured for network compatibility and must have the IPX protocol installed in their Network Neighborhood. One player needs to host the game and other players on the network may join.

Internet TCP/IP Connection for DirectPlay

Using the TCP/IP protocol you may join another player's game over the Internet. All players trying to join a TCP/IP game must know the IP address of the host computer. If you need to find out your current IP address, simply type '/ip' in the chat line at the bottom of the multi-player game setup screen and hit enter. Your current IP address will then show up in the chat window; this is the number other players need to enter (including the periods) when Submarine Titans asks them for the IP address of the host.

Modem Connection for DirectPlay

If both players have a modem attached to their computer and do not wish to use the Internet TCP/IP, they may directly connect their modems. This requires one player to host and another to call in and join the game.

Serial Connection for DirectPlay

A Serial Connection is a direct serial cable connection between two computers over a COM port. Both players must configure their Serial Connection and one will host while the other joins.

FSGS (Free Standard Game Server)

The FSGS is a game-locating and chat tool that is incorporated into Submarine Titans. When you first launch the FSGS, you must register with the service to obtain a login ID and a password. Registering with FSGS is completely free and requires no credit information. Hit the New ID button to register as a new user for FSGS. You may use the Password button to change your password after you have registered.

The FSGS is set up much like a chatroom. You may broadcast messages by entering text into the field below the chat log and hitting Enter. If you wish to send a private message, select a user from the list on the right, type in a text message, then hit the Whisper button. To move to a new channel (chatroom), either type in the name of the new channel and hit Go To Channel or click on the Choose Channel button and select from a list of available channels.

You may join games by clicking the Join Game button and then either selecting a game from the list or typing in the name of a specific game. Information on any selected game will be displayed, and you may join the game's ready room by again hitting OK. The Game Type field will allow you to selectively choose which games to display on the list. To create a new game, hit the New Game button and set up the game name (and password if desired). Once your game has been created, simply set up the game to your liking and wait for players to join.

Load

If you have previously saved any multi-player games, you may use the Load function to resume a save. The loading player will act as the host and the other players will join normally.

Campaign Stats

The Campaign Statistics screen will show your battle statistics from any previously attempted mission in any of the three campaigns. Simply select a faction and mission, and you may review your current player's statistics for that mission. You may also replay any mission by hitting the 'Replay' button from this screen.

Main Game Interface

Game Interface

Once you're actually in a Submarine Titans battle, you'll quickly need to adapt to the game's interface. There are several key areas present on the Main Game Interface that you will use frequently and need to master. The White Sharks and Black Octopi have nearly identical interfaces. The Silicons interface looks different, although it functions about the same. To help simplify things, the interface will be broken down into three separate sections. Remember that you can modify most commands used on the interface, including hotkeys and mouse functions, from the Submarine Titans Configuration menu, located in the same directory as Submarine Titans.

Main Viewing Area
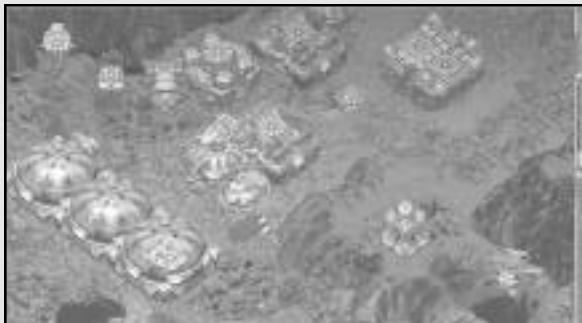
This area is where you will observe and control all of your units' actions. You'll quickly notice that Submarine Titans functions in a three-dimensional environment. Each map has five depth levels which represent the approximate distance below the surface of the ocean for all structures, submarines and terrain features. Watch the shadows cast by submarines to track their motion along the ocean floor regardless of their depth. To select a unit or structure, position the cursor over the unit and left-click on it. If you wish to select a group of units, hold down the left mouse button and drag the cursor to create a box around the units. The right mouse button will perform the default action for any selected unit. For most submarines, the default action is to Move, but it will change to Attack when an enemy unit is under the cursor. Structures typically do not have a default action, except defensive turrets, which will default to an Attack command when appropriate. On the right side of the viewing area is a depth indicator for the cursor. Moving the cursor around will cause this depth indicator to rise and fall, displaying the depth of the underlying terrain. If you wish to select a new unit or structure, simply left click on it or drag a box around a new group. If you issue a specific order to a unit, such as a Move command using the Move button (discussed below), the left mouse button is used to execute the specific order while a right-click will cancel the order without execution.

Top Tool Bar

Across the top of the game interface is a thin tool bar with several buttons and information displays. Starting from left to right, these function as follows:

Game Settings

From the Game Settings menu you can access several options that deal with modifying the game and

its playability. From the main screen you may access the Save Game, Load Game, Restart Game, Exit to Main Menu, Quit Game, Mission Objectives, and Settings. The last option, Settings, has several sub-sections.

Settings Options

Music

You may adjust the Music setting from this menu. If necessary, you can try turning off the Music or adjusting its source if you encounter performance problems.

Sound Effects

You may adjust all non-music effects, such as battle sounds and unit voices, from this menu.

Game Settings

The Game Settings menu contains the scroll-speed adjustments for the Sonar Map and Main Viewing Area. You may also adjust the overall Game Speed.

Graphics

If you wish to turn off any of the graphical features, such as unit animations, you may do so from the Graphics section. Turning off graphical features may help improve slow graphical performance.

Screen Settings

The game resolution and the prominence of chat messages are adjustable on the Screen Settings section. Decreasing resolution may help impr ove poor graphical performance.

Computer Assistants

If you wish to let the Artificial Intelligence control some or all of y our fleet, you may enable a Computer Assistant. There are three default Computer Assistants, each with a different behavior pattern. If you acti-vate a Computer Assistant, you may make structures and submarines unavailable for the computer to control with the buttons located on the Sonar Map (discussed below).

Resource Assistant

The Resource Assistant will manage your faction's resources and economy. When necessary, it will build and control submarines and structures vital to keeping your faction well-financed.

Guard Assistant

The Guard Assistant will control and build any structures and submarines it feels are necessary to protect and defend your base. The Guard assistant will construct defenses and automatically set up submarine defensive patrols.

Full Game Assistant

A Full Game Assistant will effectively run your faction in the exact fashion that a computer-controlled opponent would run his. This covers all aspects of your faction, from production, to research, to warfare.

Diplomacy

If you wish to accept or offer allegiances to other players, the diplomacy menu will allow you to make and accept proposals. You may also use the buttons at the bottom and the arrow tabs at the right to choose the recipients of your chat messages. The handshake icon next to each player's name represents the following:

 This icon appears next to the name of the player with whom you want to make an alliance.

 This icon appears next to the name of the player who wants to make an alliance with you.

 This icon indicates that you are in alliance with the player.

Help System

The help menu contains three main sections: Mission Objectives, Titanopedia, and the Tips of the Day. The Mission Objectives are the winning conditions for the current battle, and the Tips of the Day are a series of hints to help you understand Submarine Titans. The Titanopedia contains a plethora of reference information about almost every object you may encounter in Submarine Titans. You may also use the Get Info About Object button in the lower right corner of the game interface to bring up the Titanopedia information on the target.

Resource Supply Indicators

For the White Sharks and Black Octopi, your available resources are listed from left to right in the following order: Oxygen, Gold, Corium, and Metal.

For the Silicons, your available resources are listed from left to right in the following order: Energy, Corium, and Silicon.

Every action of construction or research requires the expenditure of some resources. These costs are typically listed in the pop-up info box whenever you access something from a build/research menu. Resources are not instantly deducted from your available supply, but the total cost of the research/construction will slowly drain from your supply of resources. The less time it takes for the research/construction action to finish, the quicker it will drain its total cost from your resources.

Control Panel

The Control Panel is the most important tool for controlling the actions of your submarines and structures. The Control Panel can be subdivided into three areas: the Submarine Orders Panel, the Sonar Minimap, and the Structure Orders Panel. The design of the Control Panel differs slightly for the Silicons, and any control changes will be discussed separately from the White Sharks and Black Octopi controls. All three sides have a message bar across the bottom that displays the name of whichever unit is beneath the cursor. To the right of the message bar is a counter that tallies your total submarines + structures and a Get Help on Object button that allows you to bring up the Titanopedia information on any selected unit.

Submarine Orders Panel

The left side of the Control Panel allows you to issue orders to your submarines. Depending on your screen resolution, the left edge of this area will have several monitor-like stations that will display a picture of the currently selected submarine and the last few submarines selected.

Information on the currently selected submarine (or group of submarines) is shown below the picture of the active submarine. A depth indicator next to the monitors indicates the depth(s) of the active submarine(s). You may change the depth by clicking on a new depth, provided that there is no intervening terrain in the way. The main area to the right contains all the order-issuing options available to your submarines.

You may click on any of the monitors to change the active submarine to the one pictured in the monitor. The most recently used submarines will cycle through the monitors in the order that you selected them.

The top icons represent the various orders for the submarine. These may vary according to the type of submarine you have chosen. Standard military submarines have a **Move** order, an **Attack** order, a **Defense** order, a **Return to Repair** order, a **Patrol** order, and an **AI Settings** icon. With some submarines, such as the Assembler, you will see different icons. The Assembler is not equipped with weapons, so the Attack order is replaced with a **Build Object** order. Other submarines also have special order icons, typically replacing the Patrol order icon. The function of these special orders varies and is described in the submarine's description.

Near the lower-middle of the orders panel lies the **Current Upgrade/Formations button**. The Current Upgrade button is available when only a single submarine is active. Clicking on this button will bring up a list showing all technological advancements affecting the active submarine. If more than one submarine is active, the Current Upgrade button changes to the Formations button. Clicking the Formations button brings up the Formations Menu, allowing you to adjust the spread of the active submarines.

The **Formations Menu** allows you to control the pattern of your submarines. The available types of preset Formations are listed along with an option to lock-in a custom Formation or break the current Formation. The icons on the lower edge of the menu allow you to increase/decrease the area the Formation covers, or make the Formation turn left or right. To set a Formation, select one from the list and click-drag the cursor to create an arrow facing the direction you wish your Formation to face. The larger you make the arrow, the more area the Formation will initially cover.

The last part of the Submarine Control Panel is the **Return to Repair AI** setting indicators. Initially, your submarines will never Return to Repair automatically, but you may adjust this with the two indicators. Setting the indicator to 25% will cause the active submarine(s) to return to a repair facility (recharge facility for the Silicons) when they have 25% of their total hit points left. Setting the indicator to 75% will result in the active submarine(s) returning when they have 75% of their total hit points left. Note that the % indicators are the % remaining of their total hit points, NOT % of total hit points lost.

The **Silicon Submarine Orders Panel** looks different from the White Shark or Black Octopi interface, but functions in the same manner. On the top left is the Energy level indicator, showing how much remaining energy is left in the active submarine. The Depth indicator is directly to the right of the Energy level indicator. To the right of the Depth indicator rests the Return to Repair indicator. The Silicons have an extra setting on their Return to Repair indicator, a 50% marker between the 25% and 75% buttons. Remember that Silicon subs will return to the nearest Replenish Pod to restore Energy levels (used to regenerate hit points) rather than actually returning to a repair facility. The order panel, located below the other functions, works in the exact same fashion as the White Sharks and Black Octopi order panels.

Move (M)

Issuing a move order causes all submarines to travel the quickest path to the selected destination. Your submarines will ignore all enemy units until they have reached their destination.

Attack (A)

An Attack order can only be issued on a submarine or structure. Any submarine ordered to Attack will engage the target and attempt to destroy it. By holding down the left mouse button, you may create a box around a group of targets instead of selecting a single target.

Build Object (B)

This order replaces the Attack order on all construction submarines and allows them to build structures. Once you click on this order, a list of available structures will open to allow you to select the appropriate structure to construct.

Each picture represents a different structure; you may move the mouse cursor over the icon to display the structure's name and construction cost. The required resources to build a structure are color-coded; a green number represents the corium cost and a silver number represents the metal cost. The structure construction list is divided into five separate sections, each dealing with a specific type of structure. You may select a new list of structures to look at by clicking on one of the appropriate icons, or you may scroll the current list to the left or right using the arrow keys.

If you do not possess the requisite technology to build a structure, it will appear darkened on the structure list. The technology required to build that structure will appear under the structure's name, instead of its construction cost.

Load Resource (L)

This order replaces the Attack order on resource-gathering submarines. The Load Resource order is automatically issued when a resource-gathering submarine is active and you left-click when the cursor is over a mine you control. Once issued a Load Resource order, the submarine will go to the appropriate mine, load up as much of the resource as possible, and then proceed to a depot or silo to unload its cargo. Once unloaded, it will automatically return to the mine to gather more resources.

Defense (S)

Once issued a Defense order, the active submarine(s) will make their best effort to avoid incoming fire and return fire on any hostile submarines or structures within their range. Fast, small submarines are better at evading incoming fire than large, slow submarines.

Return to Repair (R)

If a submarine has suffered any damage, issuing a Return to Repair order will send the submarine back to the nearest repair structure (not repair submarine) to repair the damage. On Silicon units, this command is listed as Replenish Energy and will cause the active submarine(s) to return to the nearest Replenish Pod to restore any lost energy.

Patrol (CTRL + P)

Once a Patrol order is issued, the active submarine(s) will begin to travel back and forth between their original position and the point where the Patrol order was issued. The Patrolling submarine(s) will automatically attack any enemy forces they encounter. If the Patrolling units destroy enemy forces, they will resume their Patrol pattern.

Unload Resource (U)

The Unload Resource order replaces the Patrol order on resource-gathering submarines. This order will cause a resource-gathering submarine to stop its current action and return to the nearest unoccupied silo and deposit its cargo. It is not necessary to issue this order if you have already issued a Load Resource order, as the submarine will automatically return to a silo or depot when it fills its cargo bay.

Dismantle (No hotkey)

The Dismantle order replaces the Patrol order on construction submarines. If you wish to remove one of your structures, use a construction submarine to issue a Dismantle order on the structure. Dismantling a structure will give back a small portion of the resources used in the structure's construction.

AI Settings (ALT + A)

Each submarine has several additional orders that you can issue from the AI Settings menu. The additional orders available from this menu are:

Attack Zone (CTRL + A)

As an alternative to drag-clicking a box, you may select the Attack Zone icon and then create a box around an area you wish your units to attack. All enemy units inside that zone will be attacked in whatever order your submarines encounter them.

Guard Zone (CTRL + Z)

By selecting this order and dragging a box around some friendly units, you can order a submarine or group of submarines to guard a zone against enemy attacks. Should a hostile unit enter this zone, your units will engage it and attempt to destroy it or force it to leave the zone.

Guard Object (CTRL + G)

By selecting the Guard Object order, you may order submarines to guard a specific unit from attack. This includes both submarines and structures. Any hostile unit engaging the guarded object will be specifically attacked by whichever unit you ordered to guard the object. If you order faster submarines to guard slower submarines, you may then issue move orders to the slower submarines and the faster submarines will follow them at a matched pace.

Patrol (CTRL + P)

The Patrol command is also accessible from the AI Settings menu. Once issued, the active submarine(s) will travel back and forth between their original position and the point where the Patrol order was issued. The Patrolling submarine(s) will automatically attack any enemy forces they encounter. If the Patrolling units destroy enemy forces, they will resume their Patrol pattern.

Teleport (No hotkey)

The Teleport function only becomes useful after you have constructed an appropriate teleportation structure for your faction. Once you have a destination set for your Teleport structure, you may select a group of units, click on the Teleport order, then click on the teleport structure you wish them to use. The group of submarines will then migrate through the teleporter, one at a time, pausing whenever the structure needs to recharge, until all submarines have moved through. If the teleporting structure's Teleport destination has not been set, the submarines will not move.

Scout (CTRL + S)

Once a destination has been selected for a submarine to Scout, it will travel to that point, but will not engage any enemy forces. If the unit takes any damage from a hostile unit, it will retreat back to the point from where it began its Scout order.

Lock/Unlock Position

When a submarine is locked into its position, it will hold its position regardless of any incoming enemy activity. This allows you to move submarines into set defensive positions. Any submarine with the Lock Position option enabled will not move to intercept any incoming enemy units. Unlocking a submarine's position will allow them to roam around to intercept incoming enemy units.

Aggressive Mode

Located in the lower right-hand corner of the AI Settings box, this button toggles off/on the Aggressive AI setting. If the button is highlighted, the active submarine(s) will automatically engage any enemy forces they encounter and break any previous orders. A submarine set in Aggressive mode will ignore further orders if it is already engaged with an enemy unit, unless you order it to Attack another nearby unit.

Sonar Minimap
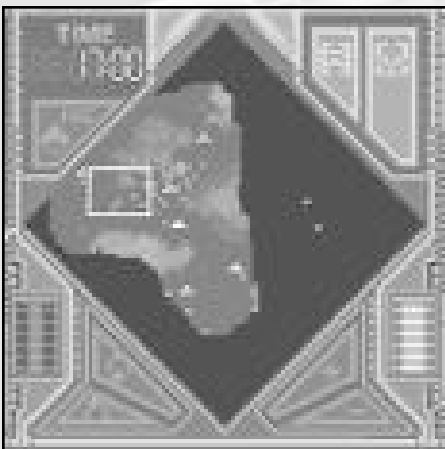
The Sonar Minimap serves as a quick reference point to help you manage your faction more efficiently. It displays all areas you have currently explored and shows where friendly and any visible enemy units are located. The blue rectangle represents the area currently in the main viewing area. You may re-center the main viewing area to any point on the Sonar Minimap by left-clicking anywhere on the Sonar Minimap. Orders to active submarines may be issued to any destination on the Sonar Minimap in the same fashion you would issue them in the main viewing area. For example, if you have an active submarine, right-clicking anywhere on the Sonar Minimap would issue the default Move order and the submarine will move to that point.

Located in the upper-left corner of the Sonar Minimap area is the current game running-time. Below the running-time is an option to enable/disable the North/East/South/West direction labels on the Sonar Minimap. The upper-right corner of the Sonar Minimap area contains two buttons. When the first button is disabled (by left-clicking on it), no enemy supply objects will appear on the Sonar Minimap. If the second button is disabled, no enemy military objects will appear on the Sonar Minimap. The bottom-left corner contains two buttons that allow you to rotate the entire viewing area, main view area and Sonar Minimap together, either clockwise or counterclockwise. Opposite the clockwise and counterclockwise buttons lie the zoom-in and zoom-out buttons. Hitting either of these buttons will zoom the main viewing area into or away from the terrain. This allows you to view more of the battlefield without increasing the game's resolution.

Located on the right and left sides of the outermost part of the Sonar Minimap are the Computer Assistant control buttons. Whenever you have a Computer Assistant active, the assistant will automatically attempt to manage whatever submarines and structures it requires to achieve its goals. The toggle button on the right side of the Sonar Minimap allows you to disable the assistant's access to the active structure, and the toggle button on the left side allows you to disable the assistant's access to the active submarine(s).

Structure Orders Panel

The right-most part of the control panel allows you to issue orders to the active structure. The Structure Orders Panel has two main areas to its interface. The number of monitors on the right edge of the Structure Orders Panel will vary depending on the game resolution.

You may click on any of the monitors to change the active structure to the one pictured in the monitor. The most recently used structures will cycle through the monitors in the order that you selected them. Information on the currently selected structure is shown below the picture of the active structure. A depth indicator is placed to the left of the active structure, indicating the active structure's depth.

The left part of the Structure Orders Panel is where you issue orders to your structures. Unlike submarines, the Structure Orders Panel differs for almost every structure in Submarine Titans. If you are unsure about what a button or display on a structure's order panel represents, simply move the cursor over the part in question and a text bubble will appear with the feature's function. The most common feature found on all structures is the 'Self-Repair' button.

If a structure takes damage, you may start repairs by hitting the 'Self-Repair' button. Structures may not engage in other activities, such as research or construction, while they are undergoing repairs. Most structures have simple menus that are displayed in the main area beneath the Self-Repair button. The most complex order menu is found on structures capable of building new units or other structures. Much like the 'building submarines' (Assemblers, for example), these structures possess a separate build menu. Clicking on the 'Build Submarine' button will cause a similar menu to pop up.
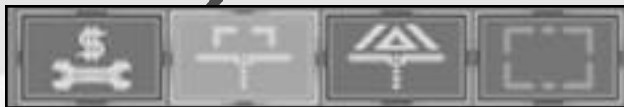
Each submarine icon represents a different submarine available for production. The build menu for structures functions like the build menu for construction submarines such as Assemblers. You may display the name and construction cost of a submarine by moving the cursor over a submarine's icon. The resources required to build a submarine are color-coded; a green number represents the corium cost and a silver number represents the metal cost. The structure construction list is divided into four separate sections, each dealing with a different class of submarine. You may select a new list of submarines by clicking on one of the appropriate icons, or you may scroll the current list to the left or right using the arrow keys.

If you do not possess the requisite technology to build a submarine, it will appear darkened on the list. The technology required to build that submarine will appear under the submarine's name instead of its construction cost.

The Silicon Structures Order Panel looks different from the White Shark or Black Octopi interface, but again, it functions in the same manner. The top-left of the panel contains any applicable orders for the structure, such as the 'Build Submarine' button. All Silicon structures have a 'Replenish Energy' button to refill the Energy supply. Damaged Silicon structures use Energy for repairs and require an influx from your Energy bank to maintain repairs. The depth indicator is directly to the right of the order panel. The blue bar to the right of the depth indicator displays the Energy supply of the active structure. The bottom half of the Silicon Structures Order Panel contains information relevant to the structure, such as a progress indicator for submarine construction.

Getting Started

If you've never played a real-time strategy game before, getting used to the unique combination of base management, resource gathering and combat can be quite a task. This section will help you start playing and enjoying Submarine Titans.

Game Concepts

A game of Submarine Titans is heavily dependent on how several important game concepts are handled. These concepts are the basis for how a player uses his starting units to eventually defeat his opponents. The main factors during a game of Submarine Titans are detailed in the following section.

Resources

One of the most important things to know in Submarine Titans is how to manage your resources. While the White Sharks and Black Octopi manage their resources similarly, the Silicons have a completely different resource model. Because of the differences in resource management, it is important to be familiar with each style.

There are 6 resources in the game:
1. Oxygen is extracted from water with the help of a special structure.
2. Metal is extracted from wreckage or metal deposits with the help of metal mines, transports, and depots.
3. Corium is extracted from Corium deposits only (meteor fragments).
4. Gold is extracted from water or received as payment for the sale of other resources.
5. Silicon is extracted from sand with the help of Silicon Extractors.
6. Energy can be extracted from metal deposits or from the recycling of metal wreckage.

White Sharks and Black Octopi need the following resources:

Metal
Metal is used by both White Sharks and Black Octopi in building submarines and structures. Metal is extracted from deposits scattered across the sea shelf and varies in density. It is mined by a special structure and then transported to a storage facility by a cargo transport. The cargo subs used to transport metal for the Black Octopi are called Cargo Subs; for the White Sharks, they are TranSubs. Transferring metal resources to an ally requires it to be first processed into a Cargo Container. Cargo Containers can also contain more of the resource than a single transport can normally carry. Metal may also be bought or sold through a TradeCenter for the White Sharks and via a Market for the Black Octopi. Trade Centers and Markets create Cargo Containers.

Corium (276)
Corium is the most complex element ever discovered. It has the ability to radiate an enormous amount of energy and is vital for constructing, powering, and arming submarines and special structures and generators. Corium is extracted from deposits scattered across the sea shelf and varies in density. It is mined by a special structure and then transported to a special storage facility by a cargo transport. Like metal, this resource can be sold, bought or transported in Cargo Containers.

Gold

All scientific research is funded by Gold. Gold also serves as the medium for exchanging resources (for example, Metal into Corium or vice versa). Gold is extracted directly from seawater by special filtering structures. The speed of Gold extraction varies based on the density of dissolved Gold in the seawater and will decrease gradually as more Gold is extracted from the seawater.

Oxygen

Oxygen is required to run the life support systems in all underwater structures. A steady Oxygen supply is required before new structures can be constructed. Every completed structure will continuously use a certain amount of air. If there is ever an insufficient supply of Oxygen, many structures will slow down or cease functioning. Oxygen is extracted from the seawater by electrolysis at Air Extractors for the White Sharks and at O2 Sublimators for Black Octopi. Each Sublimator or Extractor will provide a limited supply of Oxygen.

The Silicons need the following resources:

Silicon

Silicon is the primary resource for the Silicons, required in the production of all subs and structures. Special Silicon Extractors mine silicon from sand on the ocean floor. Silicon Extractors all have a minimum control area and no additional extractors may be built in a pre-existing extractor's control area. Silicon extraction rates do not decrease over time like Gold, nor does Silicon require a separate storage facility like Corium. Silicon may be converted into Energy at an Energy Converter.

Corium (276)

Corium is required during the production of most structures, submarines equipped with weapons, and some types of ammunition. Corium Collectors extract Corium from raw deposits of varying density and Transports deliver it to Corium Silos for usage. Corium may be converted into Energy at an Energy Converter.

Energy

Energy is used by all Silicon submarines and structures for basic survival and for hit point regeneration. The speed of regeneration depends on the submarine's/structure's current supply of stored energy. Energy can be acquired through conversions at an Energy Converter or harvested from metal deposits with an Energy Accumulator. A submarine's store of Energy is depleted over time and must be restored by a Replenish Pod.

Unit & Structure Production

Along with researching new technologies and managing resource collection, you will also need to manage and produce various types of structures and submarines. Structures and Submarines are typically very specialized and must be strategically deployed to maximize their usefulness.

Each faction has four standard military units, with each successive unit typically having more weapons, armor, and a higher construction cost than the previous. In addition to military submarines, there are a number of special and non-combatant subs available. While some special subs are capable of fighting as well as some military subs, there is no predictable pattern in their development.

Efficiently balancing your resource expenditures between research, structures, and submarines is one of the keys to victory in Battle. Each faction will require you to balance this expense-versus-income model in a slightly different fashion. Ideally, you should have enough resources to fund all your expenditures and enough expenditures to minimize your excess resources.

Research & Technology

Each faction researches and acquires new technology differently. The White Sharks focus mainly on military power and have the least amount of new technologies to research. Black Octopi have a larger technology tree to explore than the White Sharks, but the Silicons have the largest variety of new technologies to research. Factions with more available advanced technology initially have weaker submarines when compared to a faction with less total available research. This usually means the White Sharks have the strongest initial subs, followed by the Black Octopi, and lastly, the Silicons. The prerequisites for researching new technologies are usually directly related to the total amount of technology available to the faction. The White Sharks have the shortest and simplest tech tree, with the fewest prerequisites for new research. The Black Octopi are next in terms of complexity; followed again by the most complex race, the Silicons.

Getting Ready

There are three main goals you need to keep in mind if you wish to be successful at Submarine Titans: building and defending your base, gathering resources, and building an offensive fleet to destroy the opponent. This section is intended to give a few pointers toward achieving a proper balance among these three objectives.

In general, when you begin a new mission, you'll want to build your base and start harvesting resources before you begin to amass a fleet of offensive units. You'll usually start near fields of both Corium and metal. However, in order to harvest these resources, you'll need to build transport subs, so you should probably start with a SubCenter, Dockyard, or Protoplasm Generator, depending on which side you're playing. While that structure is being built, start to build the resource extractors and a silo for storing them, so that once you can build the transport ships, the resources are ready to be harvested. After you have a steady supply of Corium and metal (or energy), you should also build structures that harvest gold (or silicon, in the case of the Silicons). Unlike the Corium or metal extractors, you can build gold or silicon production facilities without the need of a deposit. Gold Extractors, however, will only function well if you build them with approximately seven spaces between them. Silicon Extractors, on the other hand, have a pre-set minimum spacing that will not allow you to place them too close to each other. You can build Gold Extractors right next to each other if you wish, but their efficiency will be greatly reduced.

Once you have a good flow of resources coming in, you should probably build a few low-level military subs. After they are complete, use them to scout the area. You will likely find another pair (or more) of Corium and metal fields nearby. From this point, you probably should build another set of extractors and silos for the resources. In the meantime, however, you should build a research structure, along with defensive structures to fortify your base.

After you have established your base, you will need to decide whether you wish to continue to build your defenses and proceed with your research, amass a fleet of submarines and attack the enemy, or try to strike a balance between the two. The following section will cover each method. Do not use it as the rule, instead refer to it as a guide. Use it to develop a strategy that works best for you.

Quick Start

While there are many paths to victory in Submarine Titans, the first step is always going to be a strong beginning. This section is intended to give you a few tips on starting a mission for each of the three sides.

White Sharks:

The White Sharks begin with a slight edge over the two other factions. Since you will be able to build your first two military subs without the need for research, a White Sharks player will be able to build a quick and simple fleet before the Black Octopi or Silicons are able to research the technology needed to construct their more powerful subs. Whether you wish to take advantage of this with an early attack, or wait to research your more powerful technologies, is up to you.

First off, build an Air Extractor, and then scout the area for the Corium and Metal fields. Once you find them, build a SubCenter nearby. Then start building Metal and Corium extractors, along with a Depot to hold the materials as they're gathered by your TranSubs. Once your sub construction facility is up and running, build a couple of transport subs to begin processing the materials.

Now, you can choose between an aggressive early attack, or the standard research path. If you want to build a fleet and attack early (a tactic known as a "rush"), go ahead and build an ArmCenter and one or two more SubCenters. The ArmCenter is automated and will begin producing Small Torpedoes. Set your SubCenters to make a large number of Hunters and a few Sentinels. Send the Sentinels out to find the enemy bases, and send your Hunters behind them for the early (and hopefully devastating) attack.

There is a risk when rushing your opponent, however. If they have the capabilities to repel your attack and destroy your subs, you will have wasted your time building the fleet, leaving you open and defenseless to a counterattack (or another player's rush). It's something of an all-or-nothing proposition, so you may find it more advantageous to proceed up the research tree a bit, unlocking the technologies that will make your subs more powerful and resistant to attack.

If you want to try a more standard approach, build a few TechCenters in your base. You can build only one if you want, but multiple TechCenters will enable you to research multiple technologies at the same time, as well as negate the speed disadvantage the White Sharks have in relation to the Black Octopi. You will, of course, need a few Gold Extractors to pay for all this research, so space them out around your base. While all this is going on, build another Depot and two more TranSubs to help speed up the processing of your resources. Even if you do decide to place the emphasis on research, you'll still need ships to defend your base and protect your ships when you need to expand to other Corium and Metal fields. You should always have a "standing army" of perhaps 20-24 ships around your base, to guard against enemy incursions, along with a few well-placed defensive structures.

Black Octopi:
The early strategies of the Black Octopi are very similar to the White Sharks'. After the construction of your Oxygen Sublimator and Corium/Metal extractors, you'll need to proceed along the research tree. Build a Munitions Factory and a couple of Research Laboratories. Since the Black Octopi can only build one military sub, the Fighter, at the beginning of the game, you'll need to research new technologies to obtain higher-level subs, as well as defensive structures that will ease the task of defending your base.

If you suspect an early rush by a White Sharks player, your best bet is to research Splinter Torpedo Technology and produce a few Destroyers, while continuing to research Laser Snare Technology and Cassette Shell Technology. Once you've researched Laser Snare Technology, begin to put up a large net of Laser Snares. After Cassette Shell Technology is researched, produce a few Invaders to guard your base, because they are able to damage multiple submarines in one burst. You may also wish to research Light Laser Technology so that you can build a few Light Lasers around your base. While Light Lasers aren't the most powerful defenses around, their range will enable them to get the first shot at most incoming fighters, allowing your Destroyers and Defenders to finish the job.

If you wish to take an aggressive approach with the Black Octopi, you probably should still research Splinter Torpedo Technology first and build a fleet of Destroyers. These cheap and powerful subs are quite devastating against the lower-level subs your White Shark opponents are likely to be building. Speed is of the essence, however; if you waste too much time researching, your enemy will be too entrenched for your Destroyers to do much harm.

If you want to be the one that's entrenched, quickly begin researching successive Laser technologies. Ruby Laser Technology will enable you to build the powerful Cruiser, and the following Gas Laser Technology will give you the Heavy Lasers, an excellent defensive structure that will destroy low-level incoming subs handily.

Silicons:

The Silicons are markedly different than the two human races, both in the structures and units they build, as well as the resources they gather. You won't have a choice as to your first building; Silicons have to start with the Protoplasm Generator. This will allow you to construct more Capsule-Prototypes to expand your base.

After you have your Protoplasm Generator built, go ahead and produce four or five more Capsule-Prototypes. Scout around for Corium and Metal, and produce the full range of Supply Structures: a Corium Collector, an Energy Accumulator, a Silicon Extractor, and a Corium Silo. Build a Transport to bring Corium to the Corium Silo. A Replenish Pod would also be a wise idea to supply much-needed power to your subs. You will also want another Protoplasm Generator, on the opposite side of the base, to double your ship construction capabilities. You'll need to take stock of your resources at this point and should build a few more Silicon Extractors, as well as decide whether you wish to take an aggressive stance during the battle, or play the game a bit more defensively.

If you're playing offensively, your options will be limited until you build a Command Hub and begin researching new technology. You'll be able to build SHS Subs without research, but they're poorly armored and will be destroyed fairly easily by enemy defenses and mid-sized subs, so rushing with them will be difficult. Your best bet would be to build a Command Hub and a Submarine Module, which will allow you to build Escorts and Dreadnaughts within two research cycles (you might also want a Regeneration Module to produce new armor). If you want to attack early, research Energy Shell Level 2 as soon as possible, and when that research is completed, send your fleet toward the enemy position. The extra 40% of damage will be a big help in overwhelming the opponent's defenses.

When you're playing defensively, you'll need to build a Command Hub and its various modules as soon as possible. The Structure Module should be set up first, as you'll need the large variety of defensive structures available to the Silicons in order to protect yourself from an early enemy attack. The first defensive structure to research is the PP Pulsar. Build as many as possible while researching Gas Shell Launchers, then build several of those as well. After you have researched the Gas Shell Launcher, research the Soliton Oscillator, and build as many of these as you possibly can because they will damage any sub within range. Be sure to also construct some SHS Subs for mobile protection, and move up to Dreadnoughts and Escorts for base protection when they're available.

Factions Analysis

The three dominant factions warring on Earth today are the White Sharks, Black Octopi, and the Silicons. In their lust for victory, each faction has developed a selection of technology, submarines, and structures that best suits their philosophy of war. While some design concepts, such as Corium harvesting, are shared throughout all the factions, each faction also possesses a supply of unique and specialized equipment. The following information covers all known submarine designs used by all three factions, an analysis of each of their structures, and a rundown of each faction's technological advancement tree. This data should prove invaluable to all submarine commanders, regardless of previous experience or affiliation.

White Sharks

Characterized by their obsessive drive for control and focus on military expansion, the White Sharks grew out of the UN endorsed Combined Earth Defense force (UNCED) created to protect the planet from the Clark Comet.

The Sharks have an aggressive low-tech civilization organized along strict military lines. Defeated once in their attempt to take control of the planet, they have spent the years since the comet strike building their war machine with the express aim of defeating the Black Octopi 'pacifists'.

White Sharks objects are typically rugged and cheap, strongly armored and heavily armed. With their focus on military strength (at the expense highly refined technology), their units are generally inferior one-on-one with their chief rivals, the Black Octopi. However, the White Sharks fleet is much, much larger.

Units

The White Sharks have several strong advantages concerning their units. They have the cheapest low level attack sub, the Sentinel, and they have the strongest sub, the Terminator. If used right, the White Sharks' units can definitely form a force to be reckoned with. For statistical information on the subs and weaponry, please refer to Appendix 2: Submarine Statistics and Appendix 3: Weaponry Statistics.
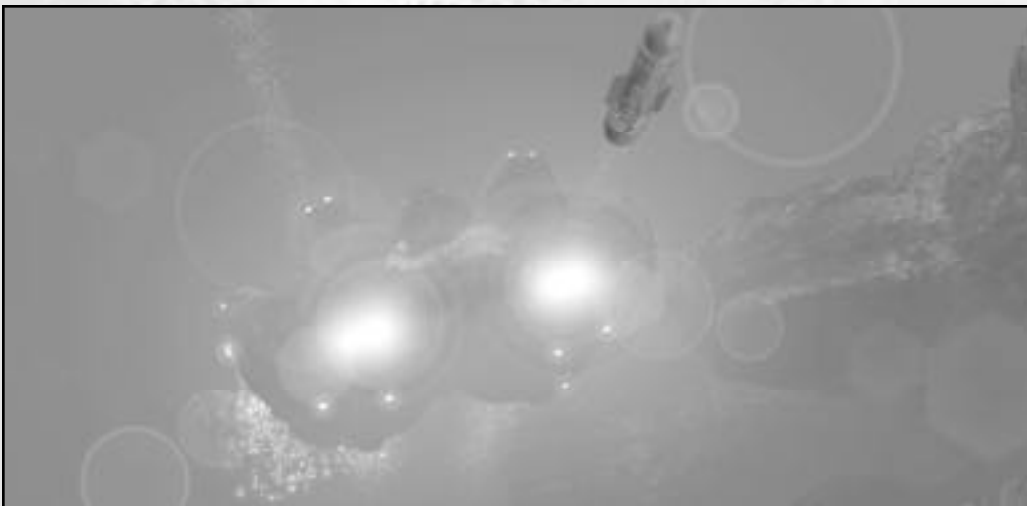
Supply Submarines

Constructor
An essential part of the White Sharks' military, the Assembler is used to create new structures.

TranSub
TranSubs transport resources from Corium or Metal mines to a Depot. The TranSub is both unarmed and unarmored.

RepSub
More like a floating structure than a submarine, these platforms are designed to repair damaged submarines and double as a transport for paralyzed units. RepSubs are also able to transport cargo containers, including artifacts and containers. The RepSub possesses no arms or armament.

Military Submarines

Sentinel
Sentinels are cheap and fast-moving submarines that do not require ammunition from an ArmCenter. While they do not possess much armor, their speed and the rate of fire for their HF Cannon make Sentinels effective in packs, or when supported by larger submarines.

Hunter
Another cheap and maneuverable small submarine, Hunters are armed with Small Torpedoes and are effective at distracting the enemy while larger subs move in for the kill.

Cruiser
Cruisers are powerful submarines with good armor, large torpedoes, and heavier armor than either the Sentinel or the Hunter. While the Cruiser is an expert at assaulting enemy defensive lines, the costs for production, maintenance, and repair are quite high. Cruisers require ammunition replenishment from ArmCenters.

Terminator
The Terminator is the most powerful White Sharks sub class. Armed with a Plasma Generator, these submarines can sink a Black Octopi Destroyer with a single shot. Equipped with exceptional engines, the Terminator is surprisingly fast for its size. On the other hand, the Terminator does suffer from limited armor and a slow rate of fire.

Special Submarines

Marauder
This sub class can capture enemy subs and structures. After a successful capture, the player's TechCenter gets temporary access to relevant technologies possessed by the previous owner of the captured structure or sub. These appear in a section of available research called Enemy Technologies. Note that Silicon technologies cannot be learned. Marauders have decent armor and are armed with Small Torpedoes.

Mine-Layer
Mine-Layers are designed specifically for laying and clearing minefields. Mine-Layers are armed with 10 Depth Mines and Small Torpedoes as a back-up. While not designed for combat with other subs, they do have a limited ability to defend themselves against medium-sized enemy submarines. Mine-Layers do not possess the armor for long engagements.

DC Bomber
An artillery submarine, DC Bombers have been specially developed to assault groups of enemy subs or structures. These subs are also effective against enemy defensive structures. They have good armor and carry Small Torpedoes to defend themselves against small subs, but they are slow moving and require anti-sub support in most battles.

Liberator
An anti-stealth submarine, Liberators can detect enemy Phantoms and Stealth Scouts to turn them into easier targets. Liberators are armed with Small Torpedoes and 10 Beacons, autonomous 'mines' which have the ability to cancel enemy stealth technology within a given radius, but for a short period of time due to their limited energy supply.

Cyborg

Cyberworm
Cyberworms are unique hybrid cyber-organisms designed to penetrate enemy Silos and steal some of the resources by teleporting them to a friendly Depot. While they possess decent speed and maneuverability, they are unarmed and unarmored. Cyberworm production is slow, and they cannot be repaired. Cyberworms are produced at CyberCenters.

Structures

The White Sharks focus more on armoring their structures than they do on making sure that their structures are efficient. The upside is that the White Sharks possess some of the most advanced base-defense systems, enabling them to batten down the hatches and put on a serious defensive show of force, while their submarines work over the opposition's base. For statistical information on the structures, refer to Appendix 1: Structural Statistics.

Basic Structures

SubCenter
SubCenters are used to build all White Shark submarines. While better armored than their Black Octopi counterparts, SubCenters have a slightly reduced construction speed.

RepCenter
The RepCenter is the structure used by the White Sharks to repair damaged subs. Again, this has more armor than its Black Octopi counterpart, and a slower repair speed.

ArmCenter
ArmCenters supply torpedoes, mines, and depth charges to re-supply various military subs. The ArmCenter is lightly armored and sustains a rate of manufacture that is similar to its Black Octopi counterpart.

TechCenter
While new technology is not a focus for the White Sharks, they do perform military research in the TechCenter. As the sciences are under-funded, White Sharks acquire new technology somewhat slower than the other factions do.

Sonar
Sonar is used by the White Sharks to view their surroundings under the sea. Without sonar, visibility is limited to sight range, which is not far in the murky depths of the sea.

InfoCenter
InfoCenters are the central information facility for the White Sharks. This structure is used for evaluating enemy strategies and comparative strengths and weaknesses, allowing White Sharks' commanders the ability to look at the status of enemy objects while in combat. InfoCenters will detect enemy Laser Bomb launches and, by influencing their navigation system, reduce their accuracy.

CyberCenter
CyberCenters are special Bio-Development centers used by the White Sharks to develop their Cyberworms.

Supply Structures

Air Extractor
Air Extractors extract Oxygen from seawater and supply all White Sharks structures with a breathable atmosphere. The White Sharks armor these facilities for security, but they function less favorably than their Black Octopi counterparts.

TradeCenter
The TradeCenter allows the trade of resources with surface survivors. With a TradeCenter, the White Sharks can buy and sell resources in order to get what they need most. Besides the trade function, a TradeCenter can produce or 'use' cargo containers that are required to transfer resources between allies.

Metal Extractor
These facilities are used to destructively strip-mine metal from the seabed.

Corium Extractor
Corium Extractors are used to collect Corium from comet fragments on the seabed.

Depot
The White Sharks use these to store both Metal and Corium.

Gold Extractor
Gold Extractors extract the minute amounts of gold that can be found in seawater. They are based on old technology and are less efficient than the comparative Black Octopi structure.

Defensive Structures

HF Cannon
The HF Cannon, with its 360-degree rotation, is an extremely effective defensive weapon, when provided with a clear line of fire.

Stationary Torpedo Launching Platform (SToLP)
With the Stationary Torpedo Launching Platform's dual medium torpedo launchers, this defender is equipped to deal with even the largest attacks.

Ultrasonic Generator
The Ultrasonic Generator is a defensive installation that radiates extremely powerful ultrasonic waves to damage enemy objects.

Plasma Cannon
The most powerful defensive weapon for the White Sharks is the Plasma Cannon. It does not require ArmCenter support, but has a low rate of fire.

Special Structures

TranCenter
Based on technology stolen from the Black Octopi several decades ago, and modified by some additional research, the White Sharks can build and use these Centers to transport subs instantly between locations within a limited area.

Disperser
Dispersers protect submarines from enemy sonar and disable the stealth generators used by some Black Octopi subs.

Shark Control
Shark Control Centers control the behavior of up to three sharks simultaneously. Sharks are used to protect objects from cyber creature attacks (Dolphins and Worms). When the number of sharks controlled is less than three, the Shark Control generates special impulses to attract new sharks to the area.

Psychotron
The Psychotron is used to disorientate enemy subs, causing them to attack the nearest objects, even friendly ones. Highly effective against large groups of enemy submarines.

Plasmatron
Plasmatrons are required to extract Deuterium for nuclear torpedoes launched by the TLS.

Thermo-Nuclear Launching Shaft (TLS)
Nuclear weapons are the pinnacle of offensive weaponry used by the White Sharks, and this shaft is equipped to launch torpedoes with deuterium-enriched nuclear warheads.

Teleshield
This is a special structure that creates a teleport-free zone to prevent enemy subs from penetrating. It is effective at keeping out enemy Raiders and Usurpers, but only protects a limited area.

White Sharks Tech Tree
The White Sharks may not rely on technology as much as the other factions, but they do command a basic mastery of it. The tech tree for the White Sharks is simpler than that of other factions, enabling them to go straight for certain types of technology, without having to deal with as many dual dependencies.

Hydro-Fusion Technology
Allows the construction of HF Cannons – stationary defense structures that do not require external ammo.
Requires: No Prerequisite

Medium Torpedo Technology
Medium torpedoes contain multiple warheads that can penetrate armor and damage internal sub equipment. They are carried by Stationary Launching Torpedo Platforms (SToLP) and produced in an ArmCenter.
Requires: Hydro Fusion Technology

Long Range Sonar

Sonar is crucial as it allows the tracking of distant enemy objects on the Sonar map. Note that Black Octopi sonar (ASDIC) is more advanced and has greater range.
Requires: No Prerequisite

Large Torpedo Technology

Large Torpedoes have an improved hollow-charge warhead to increase the damage inflicted on enemy armored subs and structures. Installed on Cruisers, large torpedoes make this exceptionally armored sub effective in attacking enemy defensive structures.
Requires: Medium Torpedo Technology

Mobile Sonar Technology

This technology installs sonar on all submarines in your navy. Note that mobile sonar does not increase the sight range for subs; instead, it complements stationary sonar, allowing enemies to be seen on the Sonar Map.
Requires: Long Range Sonar

Research Enemy Cipher Key

This technology allows the construction of InfoCenters that can hack into enemy information systems for useful info about enemy subs, structures, and resources.
Requires: Long Range Sonar

Upgrade to Engine Class 2

Upgrade to sub engine that increases speed by 25% over Level 1.
Requires: No Prerequisite

Upgrade to Armor Level 2

Reduces the damage inflicted by enemy weapons by 20%. Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Medium Torpedo Technology

Depth Mine Technology

Allows the creation of mine belts. Depth Mines are invisible to enemies, and as floating bombs, they are exceptionally effective in protecting avenues of approach. An ArmCenter produces the mines, and a Mine-Layer is required to carry and lay them.
Requires: Large Torpedo Technology

Upgrade to Torpedo Level 2
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Large Torpedo Technology

Upgrade HF Cannon Fire-Rate
Increases the fire rate for stationary HF Cannons. It does not improve subs armed with the HF Cannon.
Requires: Large Torpedo Technology

Detect Teleportation
This useful technology allows an InfoCenter to automatically locate and inform you from where, or to where, the enemy has teleported objects.
Requires: Research Enemy Cipher Key

Marauder Equipment
The Marauder class sub has the unique ability to capture enemy subs and structures as well as the ability to research enemy technologies at a friendly TechCenter. Marauders have good armor and are armed with Small Torpedoes.
Requires: Research Enemy Cipher Key

Mobile RepSub
Allows the production of mobile repair subs that fulfill both repair and transport functions. They are able to repair subs of various types (excluding Cyberdolphins and Cyberworms) and carry cargo including other subs, containers, and special cargoes. The cost to repair a sub using one of these repair subs is cheaper than for stationary repair centers.
Requires: Upgrade to Engine Class 2

Depth Bomb Technology
Depth Bombs are effective in attacking groups of enemy subs and structures. While the Depth Bombs are quite powerful, the DC Bombers sub that carries them is slow and only has medium armor.
Requires: Depth Mine Technology

Upgrade to Torpedo Level 3
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Upgrade to Torpedo Level 2

Ultrasonic Technology
Allows the construction of defensive structures that emit a special field which damages all enemy objects that enter it. Damage continues until the enemy is destroyed or withdraws from range (or the ultrasonic emitter is itself destroyed).
Requires: Upgrade HF Cannon Fire-Rate

Teleshield
Teleshields are special structures that create a teleport-free zone to prevent enemy subs from penetrating. They are effective at keeping out enemy Raiders and Usurpers, but only protect a limited area.
Requires: Direct Teleportation

Disperser Screen Technology
Dispersers negate enemy sonar for a given area. This can be very useful to hide friendly activities.
Requires: Direct Teleportation

Laser Snare Detection
An upgrade for Mine-Layers, this technology allows them to seek out and destroy enemy Laser Snares.
Requires: Direct Teleportation

Depth & Acoustic Mine Detection
This technology automatically upgrades Mine-Layers to detect and destroy enemy Depth and Acoustic Mines.
Requires: Direct Teleportation

Upgrade Hack Ability
This technology halves the time needed to access enemy computer systems. It allows greater and longer access to information about enemy subs, structures, and resources.
Requires: Marauder Equipment

Upgrade to Mobility
Allows stationary defensive structures to move, which can radically alter tactics. These structures move much slower than any sub and cannot fire or self-repair while moving.
Requires: Mobile RepSub

Torpedo Speed Upgrade
Increases torpedo speed by 30%. It does not affect the speed of mines or energy charges.
Requires: Upgrade to Torpedo Level 3

Upgrade Ultrasonic Generator
Increases the range of Ultrasonic Generators by 30%.
Requires: Ultrasonic Technology

Teleportation Technology
This revolutionary technology allows the instant teleportation of mobile units to any area of the map. A TranCenter structure is required for the teleportation.
Requires: Disperser Screen Technology

Marauder Equipment Upgrade
This upgrade increases the effectiveness of capture attacks by Marauders. It reduces the time required to capture an enemy object by 20%, but does not increase the chances of capturing it. All Marauders are automatically upgraded.
Requires: Upgrade Hack Ability

Increase Information Security
This technology reduces the risk of prolonged enemy hacks into your system. It halves the time for any enemy intrusion, and with the assistance of an InfoCenter, makes it possible to trace the structure from which the hack occurred.
Requires: Upgrade Hack Ability

Shark Control Technology
Shark Centers can control the behavior of up to three sharks at the same time. These sharks will protect your base by attacking any cyber creatures that enter a given range. When there are less than three controlled sharks, the Center generates special impulses to attract additional sharks.
Requires: Upgrade Hack Ability

Upgrade to Engine Class 3
Upgrade to sub engines that increases speed by 75% over Level 1.
Requires: Upgrade to Mobility

Upgrade to Armor Level 3
Reduces the damage inflicted by enemy weapons by another 20% (40% total). Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Upgrade to Armor Level 2
                      Torpedo Speed Upgrade

Upgrade to Torpedo Level 4
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Torpedo Speed Upgrade

Psy Technology
Psy-generators can disorientate nearby enemy subs. The enemy will begin firing at the nearest object regardless of allegiance. This weapon is a very effective defense against large enemy groups.
Requires: Upgrade Ultrasonic Generator

HF-Shell Upgrade
This upgrade doubles (100% increase) HF-shell power used by both Sentinels and HF Cannons. Fire rate and range remain unchanged.
Requires: Upgrade Ultrasonic Generator

Anti-phantom Technology
Continuing research into electromagnetic radiation, this technology allows the installation of generators able to detect enemy submarines in Stealth mode. Anti-phantom generators are installed on Liberators and stationary Dispersers. Liberators are armed with small torpedoes and carry 10 Beacons to trace enemy objects in the surrounding area (including those in Stealth mode) for a period of time limited by their energy resources.
Requires: Teleportation technology

Upgrade Sonar Range
Increases the range of stationary Sonar.
Requires: Increase Information Security

Upgrade Shark Control
Increases the effective range of Shark Control. It also increases the number of sharks that can be simultaneously controlled by each Center from three to five.
Requires: Shark Control Technology

Cyber Technology

Allows the use of Cyberworms, a cyber creature able to penetrate enemy Silos and Corium Stores to steal resources.

Requires: Shark Control Technology
                 Upgrade to Engine Class 3

Improve Repair Technology

Accelerates repairs by RepCenter and RepSub by 50%.

Requires: Upgrade to Engine Class 3

Upgrade to Torpedo Level 5

Increases the power of regular torpedoes (Small, Medium, and Large).

Requires: Upgrade to Torpedo Level 4

Plasma Generator

Plasma Generators are the most powerful submarine weapon, and do not require external power sources. This technology allows their installation on Terminator class subs. As Terminators are floating power generators, they can only carry medium armor and are best used as part of a mixed taskforce.

Requires: Psy- Technology

Increase TranCenter Recharge

This upgrade reduces TranCenter recharge time by 25%.

Requires: Antiphantom Technology

Anti-Mass Weapons Defense System

This reduces the accuracy of enemy weapons of mass destruction, such as Laser Bombs and Thermo-Nuclear Rockets. After research, the InfoCenter will detect enemy Laser Bomb and Thermo-Nuclear Rocket launches and, by influencing their navigation system, reduce their accuracy. Note that the enemy missiles must be within range of a friendly InfoCenter to be affected, and the degree of accuracy lost will vary.

Requires: Antiphantom Technology
                 Upgrade Sonar Range

Upgrade to Engine Class 4
Upgrade to sub engines that increases speed by 100% over Level 1.
Requires: Cyber Technology

ArmCenter Upgrade
Increases the ArmCenter production speed by 50%. Note: this does not reduce the cost of ammo.
Requires: Improve Repair Technology

Anti-laser Screen
This technology is useful against enemy subs and defensive structures armed with lasers. After research, protective anti-laser screens are installed on all types of subs to reflect 25% of damage back on the attacker.
Requires: Plasma Generator

Plasma Cannon Technology
Allows the construction of stationary Plasma Generators. They have a greater fire rate than the same generators installed on Terminator class subs.
Requires: Plasma Generator

Upgrade Extractor Productivity
Increases Metal and Corium Extractor productivity by 25%, and correspondingly reduces the time required to load and unload TranSubs.
Requires: ArmCenter Upgrade

Upgrade to Armor Level 4
Reduces the damage inflicted by enemy weapons by another 20% (60% total). Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Upgrade to Armor Level 3
                 Antilaser Screen

Corium 296
This technology is the first step towards the creation of weapons of mass destruction. It allows the construction of Plasmatrons to produce enriched Corium isotopes.
Requires: Plasma Cannon Technology

Thermo-Nuclear Technology
Required to construct warheads containing Corium 296 and to build the launch platform and navigational system for ballistic rockets. After researching this technology, it is possible to launch Thermo-Nuclear weapons.
Requires: Plasma Cannon Technology

Black Octopi

Tracing their heritage back to the failing global corporations and resurgent ecological movement in the years before the comet strike, the Black Octopi have built their ideology on the twin ideals of environmental preservation and advanced technology.

While their civilization may seem pacifistic and militarily weak, the Octopi are technologically advanced and focused on their goal of a global community. When required, they can rapidly prepare a significant blow to any aggressor and have recently begun extending their military to confront the new species (the Silicons) that aggressively destroyed several of their subs.

The Black Octopi use technologically advanced objects with excellent speed and agility. While their weapons are more powerful than those of the Sharks, most of their military fleet consists of hastily converted civilian subs and, thus, they tend to have weaker armor and are under-armed.

Units

The Black Octopi, unlike the White Sharks, do not have the most powerful subs. While they are able to hold off the White Sharks, it is harder for them to advance on a White Shark fleet. Instead, the Black Octopi use more deceptive means. Complementing their offensive fleet, the Black Octopi employ two 'stealth' subs. One is little more than a scout, while the other is a warship. It is important that the Black Octopi make good use of these subs while they can, before anti-stealth measures have been developed by the other sides. For statistical information on the subs and weaponry, please refer to Appendix 2: Submarine Statistics and Appendix 3: Weaponry Statistics.

Supply Submarines

Assembler
Lightly armored and without any weapons, this submarine is designed to build the Black Octopi structures.

Cargo Sub
Cargo Subs are required to transport resources from mines to Silos. Cargo Subs are unarmed and unarmored.

Repair Platform
Repair Platforms are used to repair damaged submarines and transport them away from combat if they require repair or if they are paralyzed. Repair Platforms are also used to transport cargo containers and artifacts. They are unarmed and unarmored.

Military Submarines

Fighter

The smallest combat submarine available to the Black Octopi, the Fighter is small and maneuverable, but suffers from limited armor. Fighters make good patrol subs and are able to swarm an enemy while larger subs do the real damage. The biggest downside to the Fighter is that it requires ammunition replenishment from a Munitions Factory.

Destroyer

The Destroyer is a medium class submarine armed with Splinter Torpedoes. Destroyers have good speed, reasonable armor, and are well-equipped to fight groups of medium and small subs. Splinter Torpedoes are made in a Munitions Factory.

Heavy Cruiser

This submarine class has heavy armor and a powerful ruby laser battery. Intended mainly to assault enemy defenses and submarines, it lacks speed but packs a large punch. Heavy Cruisers suffer from a slow rate of fire and are best used with supporting packs of smaller submarines.

Invader

Intended to assault groups of enemy subs, the Invader class is an artillery submarine equipped with Cassette Shells which affect an area rather than specific targets. While well-armored, these subs are very expensive to produce and repair. Cassette Shells are made in a Munitions Factory.

Special Submarines

Defender

A medium class submarine, the Defender is primarily designed to establish anti-submarine belts of Laser Snares. It can carry up to 10 Snares at a time and is armed with Small Torpedoes. Defenders have an offensive advantage over individual small subs, but are outclassed by larger ones.

Raider

This class of submarine has the unique ability to capture White Sharks' subs and structures. Once captured, they can be used against their former owner, and upon successful capture of certain structures, the player's Research Laboratory will gain temporary access to specific enemy technologies. Enemy Technologies can be researched, and Black Octopi can then produce certain structures and subs used by the White Sharks. Silicon technology, however, cannot be captured or used. Raiders have good armor and are armed with a single Light Laser.

Phantom

This medium class of submarines is swift and armed with ruby lasers. It can enter an 'invisible' Stealth mode for a period of time, but once its energy is drained, it must recharge. It is quite expensive, but versatile and can hold its own against similar sized subs even when visible.

Avenger

In addition to standard weapons, this sub class is armed with a Paralyzing Rays generator. This weapon can instantly disable any submarine without damaging it. Disabled subs cannot move or fire, and must be repaired to regain these abilities. Avengers are also armed with a Light laser and have medium armor.

Stealth Scout

The Stealth Scout is a small probe submarine designed for spying and surveying enemy territory. It is equipped with a Stealth Generator and is invisible to enemies unless a Liberator sub, Disperser Screen, or Bio-Sonar structure is nearby (and the enemy has researched Anti-Stealth Disperser technology).

Cyborg

Cyberdolphin

A specially bred hybrid creature, Cyberdolphins carry a powerful charge that can destroy a medium class submarine or seriously damage a heavy one. Their speed and maneuverability make Cyberdolphins nearly invulnerable, and the unit is ideal for attacking targets in hard-to-reach areas. Cyberdolphins cannot be repaired and are slow to produce (train).

Structures

While the Black Octopi structures tend to be less armored than their White Sharks counterparts, they are usually more efficient. As long as the Black Octopi are able to hold off the White Sharks, they have a decided advantage in terms of production. However, it comes at the price of faster resource consumption. For statistical information on the structures, refer to Appendix 1: Structural Statistics.

Basic Structures

Dockyard

The Dockyard is used to build all Black Octopi subs. While unarmored, this facility is slightly faster than its White Sharks counterpart. The high cost of many technologically advanced Black Octopi subs, however, often means slower overall construction time.

Repair Dock
A conversion from a civilian facility, the Repair Dock is unarmored but allows for rapid repairs.

Munitions Factory
This factory has been developed to supply the growing needs of the military for ammunition such as cassette shells and torpedoes. As the Black Octopi are not well-versed in weapons development, this facility is slower than its White Sharks counterpart.

Research Laboratory
One of the most prestigious areas for the Black Octopi, their Research Laboratories are well-equipped and supported in order to develop advanced tools and technology.

Asdic
The Asdic is used by the Black Octopi to view their surroundings under the sea. Despite the advanced nature of this facility, the Black Octopi have resurrected the original name for this (sonar) technology.

CentComp
A combination library/intelligence system adapted for military use, the Black Octopi Central Computer, or CentComp, allows commanders to view accurate enemy structure and unit information during combat. As it is also used to store entertainment, financial and other information, it is not always as effective as the White Sharks' equivalent.

Power Station
Power Stations are required to recharge laser accumulators on Black Octopi submarines and defensive structures.

Cyber Laboratory
The Cyber Laboratory produces Cyber Dolphins.

Supply Structures

O2 Sublimator
O2 Sublimators extract Oxygen from seawater, using advanced technology; they are more effective than the White Sharks' equivalent.

Market

Markets allow the trade of resources with the surviving surface-dwelling humans. At a Market, the Black Octopi can sell resources and buy the ones they need the most. Besides the trade function, a Market can produce or 'use' cargo containers that are needed to transfer resources between allies.

Metal Mine

The Metal Mine extracts metal from the seabed.

Corium Mine

Corium Mines are used to collect Corium from comet fragments on the seabed.

Silo

Silos are used for resource storage and are unarmored.

Gold Sublimator

Gold Sublimators extract minute amounts of gold from the seawater. Based on modern technology, this plant is more effective than the comparative White Sharks' structure.

Defensive Structures

Light Laser

While a relatively weak weapon, the 360 degree turret and long range of this structure allows the Black Octopi the first strike on most approaching enemies.

Magnetic-Mine Launcher (MML)

Magnetic-Mine Launchers are a strong defensive structure intended for protection against large groups of enemy submarines.

Heavy Laser

The Heavy Laser is actually a bank of heavy gas lasers designed to function in tandem for rapid-fire, providing an effective medium-range defensive structure.

Electro-Magnetic Launcher (EML)

Electro-Magnetic Launchers are designed to destroy advanced electronics systems in enemy subs and structures using an electro-magnetic pulse.

Special Structures

Teleporter
The Teleporter allows the Black Octopi to move units almost instantaneously across large areas.

Anti-Sonar Shield
Anti-Sonar Shields protect submarines and structures within close proximity from being picked up on enemy sonar and will automatically deactivate stealth mode on any enemy submarines.

Protective Shield Generator (PSG)
Protective Shield Generators create a protective shield around friendly submarines within a certain range of the structure.

Power Protector
Power Protectors project an electronic field that protects a limited area from penetration by enemy submarines and projectile weapons (torpedoes and shells). The protective field disappears after being struck by 20 large torpedoes; however, it will regenerate 1% every 5 seconds.

Laser Bomb Launcher
Laser Bomb Launchers fire powerful bombs utilizing a laser-driven launch system.

Black Octopi Tech Tree

The Black Octopi are in the middle of the technology race. While their tree is certainly more complex and reaches farther than their White Shark opponents, it is not quite as intricate as the one used by the Silicons. The Black Octopi's combination of simplicity and diversity makes them versatile, but they do not excel in any particular area.

Light Laser Technology
Allows the construction of Light Laser defensive structures.
Requires: No Prerequisite

Splinter Torpedo Technology
When a Splinter Torpedo hits a target, it explodes and produces multiple splinters that damage all objects close to the explosion. These torpedoes are carried on a Destroyer and produced in a Munitions Factory.
Requires: No Prerequisite

Upgrade Light Laser Range
Increases the range of Light Lasers.
Requires: Light Laser Technology

Long Range Asdic
Asdic allows the tracking of distant enemy objects on the Sonar Map. Note that Asdic is more advanced and has a longer range than the White Shark equivalent.
Requires: No Prerequisite

Upgrade to Armor Level 2
Reduces the damage inflicted by enemy weapons by 20%. Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Splinter Torpedo Technology

Upgrade to Torpedo Level 2
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Splinter Torpedo Technology

Laser Snare Technology
This technology allows the production of Defender class subs armed with small torpedoes and laser snares. These snares are used exclusively to create anti-sub belts similar to mines, but emit laser beams rather than explode.
Requires: Splinter Torpedo Technology

Ruby Laser Technology
Allows the production of Heavy Cruiser class subs armed with Ruby Lasers. Ruby Lasers are more powerful than Light Lasers, but, like the latter, require some time for recharging.
Requires: Upgrade Light Laser Range

Research Enemy Cipher Key
This technology allows the construction of CentComps, which can hack into enemy information systems for useful intelligence about enemy subs, structures, and resources.
Requires: Long Range Asdic

Upgrade to Engine Class 2
Upgrade to sub engines that increase speed by 25% over Level 1.
Requires: No Prerequisite

Upgrade to Torpedo Level 3
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Upgrade to Torpedo Level 2

Cassette-Shell Technology
Allows the production of Invader class subs armed with Cassette Shells. Similar to Splinter Torpodoes, Cassette Shells split apart to damage a group of subs or structures at the same time.
Requires: Laser Snare Technology

Gas Laser Technology
Allows the construction of powerful twin-laser defensive structures called Heavy Lasers.
Requires: Gas Laser Technology

Raider Equipment
The Raider class sub has the unique ability to capture enemy subs and structures as well as the ability to research enemy technologies at friendly Research Laboratories. Raiders have good armor and are armed with a Light Laser.
Requires: Research Enemy Cipher Key
                     Ruby Laser Technology
                     Upgrade to Engine Class 2

Mobile Repair Platform
Allows the production of moblile platforms that fulfill both repair and transport functions. They are able to repair subs of various types (excluding Cyberdolphins and Cyberworms) and carry cargo including other subs, containers, and special cargo. The repair speed is slower for stationary repair docks.
Requires: Upgrade to Engine Class 2

Upgrade to Armor Level 3
Reduces the damage inflicted by enemy weapons by another 20% (40% total). Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Upgrade to Torpedo Level 3
                     Upgrade to Armor Level 2

Upgrade to Torpedo Level 4
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Upgrade to Torpedo Level 3

Magnetic Mine Technology

Magnetic Mines can seek and pursue any target. They are launched by a special launcher (Magnetic-Mine Launcher), which is also armed with Cassette Shells. These mines are produced in a Munitions Factory.

Requires: Cassette-Shell Technology
                         Upgrade to Torpedo Level 3

Upgrade Heavy Laser Range

Increases the range of Heavy Lasers.
Requires: Gas Laser Technology

Research Energy Supply

Allows the instant recharge of any sub through a channel of energy teleportation.
Requires: Gas Laser Technology

Teleportation Technology

This revolutionary technology allows the instant teleportation of mobile units to any area of the map. A Teleporter structure is required for teleportation.
Requires: Gas Laser Technology

Energy Shield

Allows the construction of Power Protectors that generate special energy fields around themselves that no enemy attack can penetrate.
Requires: Gas Laser Technology

Upgrade Hack Ability

This technology halves the time needed to access enemy computer systems. It allows greater and longer access to information about enemy subs, structures, and resources.
Requires: Raider Equipment

Disperser Screen Technology

Allows construction of Anti-Sonar Shields, which protect areas from enemy sonar and make enemy stealth subs visible.
Requires: Raider Equipment

Upgrade to Mobility

Allows stationary defensive structures to move, which can radically alter tactics. These structures move much slower than any sub and cannot fire or self-repair while moving.
Requires: Mobile Repair Platform

Upgrade to Torpedo Level 5
Increases the power of regular torpedoes (Small, Medium, and Large).
Requires: Upgrade to Torpedo Level 4

Electro-Magnetic Torpedoes
Allows the production of Electro-Magnetic Torpedoes and the Electro-Magnetic Launcher for launching them.
Requires: Magnetic Mine Technology

Upgrade Light Laser Rate
Increases the fire rate of light lasers. Recharge speed is unchanged.
Requires: Upgrade Heavy Laser Range

Upgrade Energy Supply
Increases the energy productivity of Power Stations by 50%, and thus reduces the time required for laser recharging.
Requires: Research Energy Supply

Detect Teleportation
This useful technology allows a Teleporter to automatically locate and inform you from where, or to where, the enemy has teleported objects.
Requires: Teleportation Technology
                   Upgrade Hack Ability

Stealth Scout Technology
Stealth Scouts are a new class of sub that use a stealth generator to make them invisible to enemy subs and structures.
Requires: Upgrade Hack Ability

Radio Clutter Technology
This technology installs anti-sonar radio generators on all classes of submarines in your navy, which makes them invisible to enemy sonar for a certain period of time. The generators work in automatic pulse mode and do not require any resources to operate.
Requires: Upgrade Hack Ability

Upgrade to Engine Class 3
Upgrade to sub engines that increase speed by 75% over Level 1.
Requires: Upgrade to Mobility

Upgrade to Armor Level 4

Reduces the damage inflicted by enemy weapons by another 20% (60% total). Does not improve protection against Ultrasonic and Soliton Fields.

Requires: Upgrade to Armor Level 3
                         Upgrade to Torpedo Level 5

Torpedo Speed Upgrade

This increases torpedo speed by 30%. It does not affect the speed of mines or energy charges.

Requires: Upgrade to Torpedo Level 5

Paralyzing Rays Technology

Paralyzing rays render enemy subs immobile for a limited period of time, preventing them from moving or firing. They are carried on a new sub class, the Avenger.

Requires: Electromagnetic Torpedoes

Upgrade Subs Laser Rate

Increases the fire rate of laser weapons for Heavy Cruisers, Raiders, and Phantoms. The upgrade does not reduce the time required for laser recharging, so energy reserves can be depleted much faster.

Requires: Upgrade Light Laser Rate

Protective Screen Technology

Allows construction of Protective Shield Generators, which create a field that reduces the damage from enemy weapons by 25%.

Requires: Upgrade Energy Supply

Increase Teleporter Recharge

This upgrade reduces the time required for Teleporter recharges by 25%.

Requires: Detect Teleportation
                         Upgrade Energy Supply

Depth & Acoustic Mine Detection

An upgrade to Defender class subs, which allows them to locate and destroy enemy Depth and Acoustic Mines.

Requires: Detect Teleportation

Phantom Equipment

Phantoms are stealth-equipped subs with laser weapons. Their stealth generator is limited and requires periodic recharging, during which the sub is visible.

Requires: Stealth Scout Technology

Cyber Technology
Allows the 'creation' of Cyberdolphins, enhanced and intelligent controllable 'torpedoes' carrying a charge powerful enough to destroy a medium sub, or seriously damage a large one.
Requires: Stealth Scout Technology
                  Upgrade to Engine Class 3

Munitions Factory Upgrade
Improves the productivity of Munitions Factories by 50%. Note that the cost of ammunition is not reduced.
Requires: Upgrade to Engine Class 3

Splinter Torpedo Upgrade
Increases the damage caused by Splinter Torpedoes by 50%.
Requires: Torpedo Speed Upgrade

EM Torpedo Upgrade
The upgrade doubles the after-effects of an EM torpedo, reducing the remaining lifetime for units damaged by this torpedo.
Requires: Paralyzing Rays Technology
                  Upgrade Subs Laser Rate

Upgrade Heavy Laser Rate
Increases the fire rate of Heavy Lasers. Laser recharge speed remains unchanged.
Requires: Upgrade Subs Laser Rate

Laser Snare Detection
This technology allows Defenders to detect and destroy enemy Laser Snares.
Requires: Depth & Acoustic Mine Detection

Raider Equipment Upgrade
This upgrade increases the effectiveness of capture attacks by Raiders. It reduces the time required to capture an enemy object by 20%, but does not increase the chances of capturing it. All Raiders are automatically upgraded.
Requires: Phantom Equipment

Increase Information Security
This technology reduces the risk of prolonged enemy hacks into your system. It halves the time for any enemy intrusion, and with the assistance of a CentComp, makes it possible to trace the structure from which the hack occurred.
Requires: Phantom Equipment

Phantom Recharge Upgrade
This reduces the time to recharge Phantom sub stealth generators by 50%.
Requires: Phantom Equipment

Upgrade to Engine Class 4
Upgrade to sub engines that increases speed by 100% over Level 1.
Requires: Cyber Equipment

Upgrade Mine Productivity
Increases Metal and Corium mine productivity by 25% and correspondingly reduces the time required to load and unload Cargo Subs.
Requires: Munitions Factory Upgrade

Anti-ultrasonic Screen
Reduces the damage done to subs by Ultrasonic Generators by 25%.
Requires: Upgrade to Armor Level 4
                         Upgrade Heavy Laser Rate

Asdic Upgrade
Allows Asdic installations to look at remote map locations for a limited period of time.
Requires: Increase Information Security

Improve Repair Technology
Accelerates repairs by Repair Dock and Repair Platforms by 50%.
Requires: Upgrade Mine Productivity

Laser Bomb Technology
Allows the construction of a launching system for Laser Bombs.
Requires: Upgrade Heavy Laser Rate
                         Asdic Upgrade

Anti-Mass Weapons Defense System
This reduces the accuracy of enemy weapons of mass destruction, such as Laser Bombs and Thermo-Nuclear Rockets. After research, the CentComp will detect enemy bomb and rocket launches, and by influencing their navigation system, reduce their accuracy. Note that the missiles must be within range of a friendly CentComp to be affected, and that the degree of accuracy lost will vary.
Requires: Asdic Upgrade

Silicons

Stranded on Terra after the disabling and almost complete destruction of their starship during the comet strike, the Silicons have had to battle to retain a fragment of their technology and survive a hostile environment in Earth's oceans.

With a deep mistrust of humanity due to their involvement in the destruction of their ship, the species is now working to collect the resources needed to build a beacon and summon another Silicon starship to rescue the survivors and their descendents.

The Silicons have extremely advanced technology and have had to rediscover warfare to protect themselves from the expanding Human civilizations. The Silicons walk a delicate tightrope. While their technology is so far advanced as to be incomprehensible to Humans, their resources are extremely limited, and without Human allies, they are extremely vulnerable.

Units

The Silicons, much like the Black Octopi, do not have the strongest offensive subs. Instead, the Silicons utilize teleportation extensively, and are able to make their units appear behind enemy lines. This ability, which must be researched, can easily catch both the Black Octopi and White Sharks off guard, giving the Silicons a decided advantage. After teleportation, it is imperative that the Silicons make the best of a transport, however, as their units quite often prove no match when the Black Octopi or White Sharks subs catch up to them. For statistical information on the subs and weaponry, please refer to Appendix 2: Submarine Statistics and Appendix 3: Weaponry Statistics.

Supply Submarines

Capsule-Prototype
The Capsule-Prototype is the most basic unit for the Silicons, and is used to build all other Silicon structures (except CHub modules). Capsule-Prototypes are produced very quickly in Protoplasm Generators. However, they are one-use items that do not possess any armor or weaponry.

Transport
Transports are used to transport Corium from Collectors to Silos for processing. They are unarmed and unarmored.

Supplier
The Supplier is both a transport for slow moving units and large objects, as well as the sole means of collecting paralyzed enemy subs and metal wreckage for delivery to Recyclotrons. Suppliers gain the ability to teleport after research of the appropriate technology and can then use this ability to transport single Silicon subs to any area on the map, except for zones protected by TeleShields.

Replenisher
Effectively a mobile Replenish Pod, these subs are designed to supply other subs with energy. They have a limited effective range, but one Replenisher is able to supply the energy required for a group of subs. The unit is also able to convert friendly structures into Corium and Silicon when resources are short with 60% of the structure's initial cost becoming available. Replenishers are poorly armored and are unarmed.

Military Submarines

SHS (Small High-Speed) Sub
The basic military submarine for the Silicons, SHS subs are fast and do not require outside ammunition provision. While poorly armored, they are fast and inexpensive to build.

Dreadnought
Dreadnoughts are large subs effective for assaulting defensive structures and groups of subs. They are armed with ballistic artillery-style shells for inflicting damage from above to all depth levels and are particularly good for targeting hard-to-reach areas. Dreadnoughts are expensive, consume a great deal of energy and require an Arsenal for rearming. They are slow, but are well armored.

Escort
The Escort is a medium class submarine armed with Ion Cassette Shells for assaulting small groups of enemy subs. Escorts do not require external ammunition, and are relatively fast with medium armor. They are relatively expensive to produce.

Special Submarines

Paralysis Probe
This sub paralyzes enemy subs with Neuro-Shells. Paralysis lasts for a limited period of time, during which the affected object cannot perform any actions. Neuro-Shells also inflict light damage. Probes have weak armor but good speed. Note that Neuro-Shells are expensive and must be produced in an Arsenal.

Bio-Acid Assaulter
A heavy submarine armed with acid shells, this class can be even more dangerous when destroyed, as an exploding Assaulter causes acid damage to other subs within three cells of the explosion. Bio-Acid Assaulters also carry Acoustic Mines that can be laid and set to react to specific weight classes of enemy subs, thus exploding only when an appropriate target approaches. This sub has good armor, but is very expensive to produce and operate. Bio-Acid Assaulters must have both Acoustic Mines and Acid Shells supplied by an Arsenal.

Usurper

Usurpers are designed to capture enemy submarines and structures. They are armed with Energy Shells that do not require external replenishing and have both good armor and speed. After a Usurper captures an enemy object, it becomes usable by the player. Note that as certain enemy units and defensive structures require resupply, they may not be usable after their ammunition has been expended.

Vermin

Vermin is a special submarine class designed to support more conventional units. Vermin can generate a shield that counteracts the effects of Psychotrons within a limited radius, protecting nearby friendly subs. This shield is automatically activated when a psy-field is detected, but will turn off once its batteries are depleted. The Vermin can also emit an Anti-Phantom field that nullifies Stealth generators. This has the same range as the anti-Psychotron field, but does not require recharging (i.e. it is constantly active). For defensive purposes, Vermin carry Energy Shells and have both medium armor and speed.

Explorer

Explorers are a class of small scout subs able to self-teleport. They are unarmed, but are reasonably fast and invisible to sonar. Their generators must recharge between teleports.

Automatic Submarine

BioCollector

This class is specifically designed for collecting the BioCapsules from destroyed Silicon subs and returning them to a Molecular Repair facility for renewal. They are unarmed and unarmored. BioCollectors are not built. Instead they are 'part' of the Molecular Repair Facility, and operate as such. It is possible to destroy a BioCollector, but when one is destroyed, it is automatically regenerated by the Molecular Repair Facility free of charge.

Structures

The Silicons rely quite extensively on their defensive structures early in the game simply because their subs are weaker than the subs of the White Sharks and Black Octopi. Because of this, it is very important that you understand how the Command Hub works, along with the role that each defensive structure plays. Silicons also require Replenish Pods to be located near their subs, due to their high energy consumption. It is important to take this into consideration before committing a large force for an assault on an enemy stronghold. For statistical information on the structures, refer to Appendix 1: Structural Statistics.

Basic Structures

Command Hub

The Command Hub is the source of research and technology for the Silicons. It is capable of spawning the various research modules without needing Capsule-Prototypes. The central structure is also able to hack into enemy computer systems for information on their navy and resources. A Command Hub is required for the functioning of all base information and protection systems. The following is a list of each module and its function.
* CHub Mobility Module - develops mobility technologies
* CHub Intelligence Module - develops intelligence equipment technologies
* CHub Super-tech Module - develops super-technologies
* CHub Energy Module - develops energy generation and saving technologies
* CHub Structure Module - develops defensive structure technologies
* CHub Regeneration Module - develops protection and regeneration technologies
* CHub Submarine Module - develops submarine enhancement technologies

Arsenal

The Arsenal produces and supplies ammunition to all units that require replenishment. With the capability to supply all seven types of Corium-based ammunition used by Silicon forces, an Arsenal's production can be altered by switching specific types on or off to conserve resources.

Protoplasm Generator

The central structure for every Silicon base, Protoplasm Generators produce all units and the Proto-Capsules used as the base construction materials and blueprints for structures.

Replenish Pod

Replenish Pods are used to recharge the energy required to activate all Silicon units and structures. Submarines must return to a Replenish Pod to recharge, while structures receive energy via direct transmission. Replenish Pods do not generate the required energy; this requires the construction of Energy Accumulators. The number of Pods, however, determines the maximum amount of energy available for use since Accumulators have limited storage capacity.

BioSonar Station

BioSonar Stations increase the range of sonar visibility. The structure can also view distant areas after it is upgraded with the Locator technology, using a full charge of energy for each view and taking some time to recharge. BioSonar Stations also function as stealth detection structures after the AntiStealth BioSonar technology upgrade and as defenses against enemy Sonar after the AntiSonar Dispersion Screen upgrade. BioSonar Stations have a greater range than similar Black Octopi and White Shark structures, but are totally immobile.

Supply Structures

Silicon Extractor

Silicon Extractors extract sand and process it into usable silicon. Silicon Extractors require a certain amount of space for normal functioning, and cannot be built close together. These structures also have the ability to store the resource until needed.

Corium Collector

Corium Collectors are mining installations that extract Corium 276 from Corium deposits. Corium Collectors are the only Silicon resource collectors that require a silo.

Corium Silo

Corium Silos are used to store the Corium mined by a Collector. Each is able to store only a limited quantity of the resource.

Energy Accumulator

Energy Accumulators convert metal ore from metal deposits into energy. These structures have an extremely limited ability to store energy, however, and they cannot transmit it to subs or structures. It is important to utilize Replenish Pods, which can store large amounts of energy and transmit it as needed.

Energy Converter

Energy Converters transform extracted Corium and Silicon into the energy required to sustain Silicon units and structures, making them useful when energy shortages occur. Note that Corium is more efficiently transformed into energy than Silicon.

Recyclotron

Recyclotrons transform captured submarines and wreckage into energy. Recyclotrons are more efficient when transforming metal into energy than they are when transforming Silicon via an Energy Converter.

Defensive Structures

Polarized Plasma Pulsar (PP Pulsar)
PP Pulsars are inexpensive defensive structures that fire plasma energy charges without requiring external ammunition replenishment.

Soliton Oscillator
This structure does not require external ammunition as it is capable of generating Soliton fields that damage enemy objects at any depth level. Soliton fields are not affected by the armor level of enemy submarines. The structure requires a great deal of Corium for construction.

Gas Shell Launcher
Gas Shell Launchers are turrets with a wide field of fire, useful for attacking enemy subs and structures at various depth levels. They have a small minimum range that makes them best used in conjunction with other defenses. Gas Shells are constructed in Arsenals, making the structure require ammunition from an Arsenal.

Double Plasma Turret Gun (DPT Gun)
DPT Guns are doubled turrets that launch High-Temperature Plasma energy shells more powerful than PP Pulsar shells. They are comparatively inexpensive to build and do not require external sources of ammunition.

Ion Reflector
By default, these structures reflect 25% of explosion energy from torpedoes and shells that hit it back onto the offender. Ion Reflectors also have an active mode in which they attack enemies with power charges similar to PP Pulsars. These structures do not use ammunition from an Arsenal, but require access to energy from an Accumulator for active mode.

Jump-Mine Launcher
Jump-Mine Launchers launch jump-mines that 'bounce' off the landscape towards enemy objects. Because these mines can move quite slowly and rely heavily on the terrain for maximum speed, they can be ineffective in certain environments and against rapidly moving enemy subs. The Jump-Mine Launcher maintains a perimeter of mines, replacing them as each is destr oyed. Jump-Mines are constructed in Arsenals.

Bio-Mine Launcher
Bio-Mines contain an organic molecular acid that damages enemy subs and structures. The mines rapidly home-in on enemy objects as they approach. At any given time, the Bio-Mine Launcher maintains a perimeter of mines, replacing them as they are destroyed. Bio-Mines, similar to Jump-Mines, are constructed in Arsenals.

Parcher

Parchers are cannons that fire powerful guided energy-charges able to damage enemy objects on different depth levels. These structures do not require external energy supplies and have no minimum range. They suffer from a low fire-rate and are best used in association with faster firing defensive structures.

Special Structures

Gate

Gates are structures used to teleport any mobile object across large distances without any energy expense. Gates can be built at any visible location, and if one is destroyed, it can be rebuilt. Teleportation through these Gates does not register on enemy anti-teleport systems and is not canceled by anti-teleport fields. Note that while building a Gate close to an enemy base can allow reinforcements to swarm rapidly toward the location, the structure is two-way and enemies can use it to return to the owner's base without any need to capture it first. Enemy access can be prevented by researching the ID Teleportation technology.

Ion Field Generator

Ion Field Generators generate a protective field for structures that reduces inflicted damage by half. The Generator's power can be divided between two structures simultaneously, but the total effect will not exceed fifty percent of the damage being inflicted<<?>>. An Ion Field Generator cannot protect another Ion Field Generator, and multiple Generators do not provide additional protection to any other structure.

Molecular Repair Facility

Once a given technology level is reached, the Silicons are able to reconstruct subs from the molecular structure information encoded into Bio-Capsules launched when a unit is destroyed by the enemy. Reconstruction is much cheaper and slightly faster than building a new sub; however, it must be started before a Bio-Capsule decays. Bio-Capsules are collected by BioCollectors and delivered to a Molecular Repair Facility for reconstruction. Note that it is possible to adjust the priorities of Repair Facilities to focus on certain classes of subs.

GLS (Gas Laser Satellite) Launcher

This structure launches satellites armed with laser guns designed to destroy strategic targets from space in precise strikes. The satellite is controlled and resupplied with energy by the Launcher, and each Launcher can only control a single satellite at a time. Satellites become unusable when the GLS Launcher is destroyed, and after their attack, they self-destruct in orbit.

Vacuum Bomb Launcher
This stationary structure produces and launches tactical weapons of mass destruction called Vacuum Bombs. Each Launcher can only store one Bomb at a time, and it takes some time to reconstruct another Vacuum Bomb. Note that building Bombs is expensive and must be completed separately from building the Launcher.

Quantum Paralyzer
This object can be effectively used against enemy teleportation attacks, paralyzing enemy subs within a certain range. Quantum Paralyzers automatically activate at the moment of enemy teleportation, if the destination point of enemy teleportation is within their range. They do not require outside energy sources, but do require time to recharge their generators.

Tech Tree
The Silicons have a vast array of technologies acquired over a complex and expansive tech tree. The sheer volume of available technical advances allows even the simplest of their units to undergo serious upgrades. Managing your research as the Silicons is initially a challenge, but will offer great rewards as you climb the tech tree.

Polarized Plasma Pulsar
Allows the construction of PP Pulsar-fixed defense installations that do not require ammunition or energy.
Requires: No Prerequisites

Gas Shell Launcher
Required to create special fixed-defensive structures called Gas Shell Launchers. These launchers require special ammunition from an Arsenal, but are able to attack at different depth levels.
Requires: Polarized Plasma Pulsar

Soliton Oscillator
Soliton waves can be transmitted through water, and because the waves are generated by special crystals, Soliton Oscillators do not require external sources of ammunition. They can regulate the amount of damage they do by altering their active range. Silicon Oscillators work very well in groups, as damage is at a constant rate and accumulates very quickly.
Requires: Polarized Plasma Pulsar

Double Plasma Turret Gun (DPT Gun)
An upgrade to allow PP Pulsar technology to be used in twin mounts. The resulting Double Plasma Turret Gun, like PP Pulsars, does not require ammunition and has a higher fire rate and attack strength.
Requires: Polarized Plasma Pulsar

Bio-Mine Launcher
Allows the creation of fixed defensive launchers that 'fire' Bio-Mines. These mines are similar to Bio-Acid Shells, but contain a homing mechanism that allows them to zero in on nearby enemy units. Bio-Mine launchers automatically replenish the mines in their vicinity whenever one is destroyed while damaging an enemy. Bio-Mines are themselves manufactured by an Arsenal.
Requires: Polarized Plasma Pulsar

BioSonar Technology
BioSonar is a vital technology that allows the construction of BioSonar Stations that increase the range of sonar visibility. These structures are more powerful than Human Sonar and ASDIC equivalents, and not only have a larger range, but also gain additional abilities with further research.
Requires: No Prerequisite

Energy Conservation Level 2
Improves the efficiency of subs and structures in using and storing energy by 50% over Level 1. The result is a reduction in energy required to power certain objects.
Requires: No Prerequisite

Upgrade GSL Fire Rate
Doubles the recharge rate for Gas Shell Launchers. Doubling the recharge rate does not increase the power of each individual attack.
Requires: Gas Shell Launcher

Ion Reflector (25% screen)
Ion reflectors are based on the same principle as the Ion Field Generators. However, rather than creating a shield, these fixed defenses reflect 25% of an attacker's attack strength from any type of weapon back at them. Ion Reflectors do not require ammunition. They do run out of energy and require a certain amount of time to recharge. Note that Ion Reflectors only reflect attacks which are directed at them.
Requires: Soliton Oscillator

Upgrade PP Pulsar Fire Rate
Doubles the fire rate of PP Pulsars by improving the efficiency of their ability to recharge. This does not increase the power of each individual attack.
Requires: Double Plasma Turret Gun

Jump-Mine Launcher

Allows the creation of defensive Jump-Mine Launchers, which launch mines that 'bounce' or 'jump' across the sea bed, or nearby undersea formations, to reach enemy submarines. Similar to Bio-Metal Launchers, Jump-Mine Launchers automatically replenish the number of mines in their vicinity up to a given limit. However, the Jump-Mines themselves are made in an Arsenal. The effectiveness of Jump-Mines depends on the landscape and enemy speed. Fast subs may be able to outrun these mines.
Requires: Bio-Mine Launcher

Ion Cassette Shells

Ionic energy-based weapon designed for damaging multiple enemy subs and structures at the same time. This technology allows the production of Escort class subs that do not require ammunition.
Requires: No Prerequisite

Human Cipher Key

This technology is necessary to successfully gain intelligence about enemies after hacking into their computer systems.
Requires: BioSonar Technology

Transform Corium to Energy

A technology that allows the transformation of Corium and Silicon into energy when required. The conversion occurs at an Energy Converter.
Requires: Energy Conservation Level 2

Upgrade Ion Reflector (50% screen)

This improves the reflection effectiveness of Ion Reflectors to 50% of the inflicted damage. It does not reduce the recharge time for depleted Reflectors.
Requires: Ion Reflector (25% screen)

Upgrade DPT Gun Range

Increases the range of the Double Plasma Turret Gun by 30%.
Requires: Upgrade PP Pulsar Fire Rate

BHE Shells

BHE Shells are high-explosive ballistic shells that can be launched by Dreadnoughts. These shells are able to reach and damage groups of subs and structures that are inaccessible to normal weapons. They are produced at an Arsenal.
Requires: Ion Cassette Shells

Local Teleportation

This useful technology allows some Silicon subs to teleport themselves to any portion of the same map (even those unreachable by regular movement). Self-teleportation requires a full charge in the Teleportation Generators, and takes some time to recharge.
Requires: Human Cipher Key

Data Intrusion
This technology doubles the length of time that enemy information is available to the hacker.
Requires: Human Cipher Key

Locator
An upgrade to BioSonar Stations, locator technology allows the stations to view a distant part of the map for a limited period of time through a focused BioSonar energy discharge. The energy consumption of this technology is quite high, however, and can take some time to recharge for a second look.
Requires: Human Cipher Key

Movement Level 2
Upgrade to sub engines that increases speed by 25% over Level 1.
Requires: No Prerequisite

Energy Conservation Level 3
Improves the efficiency of subs and structures in using and storing energy by 100% over Level 1. Such conservation drastically reduces the amount of energy required to power certain objects.
Requires: Transfer Corium to Energy

Energy Transmitter
The ability to transmit energy leads to a new class of subs, Replenishers. Replenishers are mobile transmitters that permit Silicon subs to roam freely, without the need to return to a Replenish Pod to recharge. They receive energy from a friendly base and retransmit it to a limited area around them, providing instant recharges. Note that the sub is poorly armed and armored.
Requires: Transfer Corium to Energy

Annihilation Technology
This technology allows metal wreckage, paralyzed subs and cargo captured from the White Sharks or Black Octopi, to be converted into energy. The conversion occurs at a Recyclotron, and Suppliers are used to transport the materials to the structure.
Requires: Transfer Corium to Energy

Parcher
A very powerful fixed defense, Parchers generate strong guided energy charges that can damage enemy subs and structures on any depth level. Parchers do not require ammunition; however, they do have a slow fire rate.
Requires: Upgrade DPT Gun Range

Bio-Acid Shells

Designed to 'splatter' against an enemy's hull on impact, these shells contain a powerful acid that will corrode subs and structures. These shells are very powerful and require special containment, thus a special class of submarine carries them: the Bio-Acid Assaulter. The shells are produced at an Arsenal.

Requires: BHE Shells

Energy Shell Level 2

A general energy charge upgrade that increases charge focus to raise damage by 40% over Level 1.

Requires: BHE Shells

Teleportation Gate

A further development of teleportation technology that allows the construction of a teleportation gate that can teleport any mobile unit. Note that gates consist of two parts, and if either is destroyed, the other will not work until it is rebuilt. Gates do not require external energy sources, and are constantly active. However, they also make no distinction between friend and foe, and thus enemy units can also use a gate to teleport.

Requires: Local Teleportation

Data Security Upgrade

Improved intrusion detection, this technology halves the amount of time the enemy can hack into your computer system to view intelligence on your navy and resources. It also allows you to locate the source of the enemy intrusion for a counterstrike.

Requires: Data Intrusion

Anti-sonar Dispersion Screen

This is another upgrade to BioSonar Stations that allows them to distort enemy sonar to hide a portion of the map surrounding the Station. The effective range of the screen is less than the active detection range of these stations, and is represented by concentric circles on the Sonar Map when a station is selected.

Requires: Locator

Enemy Capture

This important technology allows specialist Usurper subs to capture enemy structures.

Requires: Locator
                   Movement Level 2

Torpedo Evasion

Improves sub anti-torpedo maneuvers to avoid low-speed weapons such as torpedoes, shells, and energy charges.

Requires: Movement Level 2

Upgrade Energy Accumulator

This upgrade increases the energy recharge rate of Energy Accumulators by 25%.
Requires: Energy Transmitter

Upgrade Silicon Extractor

A mining technique improvement, this upgrade increases the speed of silicon extraction by 25%.
Requires: Annihilation Technology

Silicon Armor Level 2

Reduces the damage inflicted by enemy weapons by 20%. Does not improve protection against Ultrasonic and Soliton Fields.
Requires: No Prerequisite

Neuro-Paralysis Shells

Containing a neuro-paralysis gas, these shells are designed to penetrate enemy submarines and release a gas that immobilizes the crew for several seconds, making the enemy a sitting duck for other weapons. The shells are made in an Arsenal and carried by a new class of submarine, the Paralysis Probe.
Requires: Parcher
                   Bio-Acid Shells

Acoustic Mines

Mines provide a strong defense for any base against enemy subs. Acoustic Mines are particularly effective as they can be set to detonate only for particular sub classes, thus ensuring the maximum damage to an attacking force. These mines are produced at an Arsenal and are carried by a Bio-Acid Assaulter.
Requires: Bio-Acid Shells

Quantum Paralyzer

This technology allows the creation of a new type of structure, the Quantum Paralyzer, which paralyzes enemy subs within a certain range. It does not require outer energy sources, but does require time to recharge its generators. This object can be effectively used against enemy teleportation attacks.
Requires: Teleportation Gate

High-Range Explorer

This allows the creation of Explorer subs, which contain special equipment for exploring the map, including enhanced sonar and visual range, and the ability to teleport to any part of the map.
Requires: Antisonar Dispersion Screen
                       Teleportation Gate

Teleportation Detection
This is another upgrade to Command Hub stations, allowing them to detect the source and destination point of teleporting enemy units. It is crucial in providing an early warning of a surprise enemy attack.
Requires: Antisonar Dispersion Screen

Enemy Capture Upgrade
This technology improves the ability of Usurpers to successfully capture enemy structures. It reduces the time it takes to capture them by 20%.
Requires: Enemy Capture

Movement Level 3
Upgrade to sub engines that increases movement 75% over Level 1.
Requires: Torpedo Evasion

Energy Conservation Level 4
Improves the efficiency of subs and structures in using and storing energy by 150% over Level 1. This provides a large reduction in the energy required to power certain objects.
Requires: Energy Conservation Level 3

Molecular Repair Facility
Essentially a mechanism to clone destroyed Silicon units, the Molecular Repair Facility rebuilds a unit based on its DNA structure. Once this technology is available, all units are equipped with special BioCapsules that store their DNA pattern. When a unit is destroyed, the BioCapsule is released. A BioCollector sub can then retrieve the BioCapsule and return it to the Molecular Repair Facility for rebuilding.
Requires: Upgrade Energy Accumulator
                    Energy Conservation Level 3

Upgrade Corium Collector
This upgrade decreases the time it takes to load a Transport with Corium by 25%.
Requires: Upgrade Silicon Extractor

Silicon Armor Level 3
Reduces the damage inflicted by enemy weapons by another 20% (40% total). Does not improve protection against Ultrasonic and Soliton fields.
Requires: Silicon Armor Level 2

Ion Defensive Sheath (20%)
A protective screen that is automatically installed on all subs, once researched. It reduces the damage caused by laser and energy weapons, excluding HF Cannons, by 20%.
Requires: Silicon Armor Level 2

Paralytic Weapon Level 2

This upgrade has a double impact. It raises the impact damage of Neuro-Paralysis shells by 30% and increases the effective time of the gas by 25% over Level 1.
Requires: Neuro-Paralysis Shells

Upgrade Bio-Acid Shells

Increases the strength of Bio-Acid Shells by 50%.
Requires: Acoustic Mines

ID Teleportation

Once researched, this security measure prevents enemy units from using teleportation gates by automatically installing a sophisticated checker on each gate.
Requires: Quantum Paralyzer

Anti-Stealth BioSonar

After this technology has been researched, Anti-Stealth generators are installed on all BioSonar Stations. These generators detect any enemy subs using Stealth mode generators within a radius equal to the Anti-sonar radius of the stations.
Requires: Teleportation Detection

Depth & Acoustic Mine Detection

This technology upgrade of Bio-Acid Assaulter submarines allows them to locate and destroy enemy Depth and Acoustic Mines.
Requires: Teleportation Detection

Laser Snare Detection

This technology upgrade of Bio-Acid Assaulter submarines allows them to locate and destroy enemy Laser Snares.
Requires: Teleportation Detection

Movement Level 4

Upgrade to sub engines that increases speed by 100% over Level 1.
Requires: Energy Conservation Level 4
                 Movement Level 3

Upgrade Arsenal

An important upgrade for large forces, this reduces the production time of all weapons at an Arsenal by 25%. It does not, however, change the cost the weapons.
Requires: Upgrade Energy Accumulator

Upgrade Regeneration Speed

A vitally important technology that increases the rate of regeneration of all Silicon subs and structures by 100%.
Requires: Silicon Armor 3
                 Upgrade Energy Accumulator

Silicon Armor Level 4
Reduces the damage inflicted by enemy weapons by another 20% (60% total). Does not improve protection against Ultrasonic and Soliton Fields.
Requires: Silicon Armor 3

Ion Defensive Sheath (30%)
A protective screen that is automatically installed in all subs once researched. It reduces the damage caused by laser and energy weapons, excluding HF Cannons, by 30%.
Requires: Ion Defensive Sheath (20%)

Ion Field Generator
Ion field technology reduces the damage caused by any weapon by 50%. The field is generated by an Ion Field Generator, which may protect up to two structures simultaneously. The field is not mobile, and thus cannot protect subs. If two structures are protected, the field is distributed between the two, such that the aggregate total effect is a maximum of 50%.
Requires: Upgrade Ion Reflector (50%)
                 Ion Defensive Sheath (20%)

Paralytic Weapon Level 3
The second Neuro-Paralysis shell upgrade increases impact damage by 60% and the duration of the gas's effects by 50% over Level 1.
Requires: Upgrade Ion Reflector (50%)
                 Paralytic Weapon Level 2

BHE Shell Range Upgrade
This upgrade to the aiming systems of Dreadnoughts increases the range of BHE Shells by 20%.
Requires: Upgrade Bio-Acid Shells

Energy Shell Level 3
A general energy charge upgrade that increases charge focus to raise damage by 80% over Level 1.
Requires: Upgrade Bio-Acid Shells

Laser Replenish Sheath
This technology allows Silicon subs to absorb 50% of enemy laser weapon attacks and use the energy to recharge their batteries. This special hull coating will automatically be applied to subs once researched, but does not reduce the damage caused by laser weapons.
Requires: Upgrade Regeneration Speed

Anti-ultrasonic Screen
A protective screen that is automatically installed in all subs once researched. It reduces the damage caused by Ultrasonic Generators by 25%.
Requires: Silicon Armor Level 4

Ion Defensive Sheath (40%)
A protective screen that is automatically installed on all subs once researched. It reduces the damage caused by laser and energy weapons, excluding HF Cannons, by 40%.

Requires: Silicon Armor Level 4
       Ion Defensive Sheath (30%)

Energy Shield Neutralization
A special upgrade to Neuro-Paralysis gas, this allows three hits by Neuro Paralysis shells to destroy the protective screen created by a Power Protector, regardless of the condition of the screen.

Requires: Paralytic Weapon 3

Gas Laser Satellite
This technology allows the creation of special low-orbit Gas Laser Satellite Launchers. These launch and guide the single-use satellites to destroy strategic targets. The launcher uses a high-powered laser to launch and guide the satellite, and must be recharged between uses. If a launcher is destroyed before a satellite reaches its target, the satellite will burn up on reentry without inflicting damage.

Requires: ID Teleportation
       Laser Replenish Sheath

Psy-Shield
A special technology designed to reduce the effects of a Psychotron. This allows the use of a special dispersion field installed on a Vermin. The field is automatically activated when the Vermin enters the range of an enemy Psy field and protects subs within a given range of the Vermin. The shield is powered by special batteries, which, once depleted, cause the shield to deactivate until the batteries are fully charged.

Requires: Ion Defensive Sheath (40%)

Vacuum Bomb
The ultimate Silicon mass destruction weapon. Vacuum Bombs are tactical weapons designed to attack large groups of enemy subs and structures. The damage produced is equivalent to that of Laser Bombs and Thermo-Nuclear Rockets. The weapon is produced at Arsenals and launched by Vacuum Bomb Launchers and works by creating a vacuum at the point of impact that causes a huge concussion wave in the nearby region.

Requires: Gas Laser Satellite

Anti-Mass Weapons Defense System
This is a two-edged technology. It allows the detection of enemy Thermo-Nuclear Rocket and Laser Bomb launches, and also interferes with their guidance systems once within range of the Command Hub. The amount of deviation from the target will vary, and the missile must enter the active radius (which will be displayed on the sonar map when the Command Hub is selected) before being affected. Note that this may cause enemy missiles to hit more important structures than their original targets.

Requires: Psy-Shield

Combat Mechanics

The deadly combat in *Submarine Titans* is based on several key ideas. Basically, each submarine and structure can withstand a limited amount of damage. Hit Points (HP) measure the amount of damage a unit can take before it is destroyed. Each time a weapon strikes a unit, the weapon destroys the unit's HP equal to its damage rating. Whichever faction can first reduce all of its enemy unit's HP to 0 will emerge victorious. While these basic principles are easy to follow, the environment in which combat is waged can greatly influence the results of a fight. The main influences in the outcome of a battle are detailed in this section.

3 Dimensional Combat

Submarine Titans is unique in its representation of three-dimensional movement. In addition to movement in the normal two-dimensional plane, your units have the capability to move up and down in relation to the sea floor. Knowledge and use of your depth controls is crucial to combat success.

Submarine Titans features five distinct depth levels, controlled by the vertical buttons near the bottom corners of your interface. All structures have to be attached to the ocean floor, but your submarines will have complete freedom to move up and down by your manipulation of the right set of depth controls. Predictably, the bottom-most setting will move your subs to the lowest depth level, near the sea floor, while the top setting will move your subs to the highest depth. These depth levels will have a noticeable impact on three aspects of the game: ship-to-ship battles, battles between permanent defensive structures and enemy ships, and ship movement through the terrain.

Depth can have an important effect on how your submarines act during a battle with enemy forces, as depth affects weapons range. If a firing sub is significantly higher or lower than the target sub, the firing sub may not be able to land a hit. The firing sub might need to maneuver up or down to a more favorable depth. Since there are such a large range of depths to move through, you'll be able to use the depth settings for some unique strategies. For example, if your opponent's subs are defending at the lowest depth setting, send your fleet in at the highest depth, and you may completely bypass the defenders and reach the base before the fleet can attack you.

When the enemy is attacking your base, your defensive structures will often be responsible for the majority of the counter-attack. Unfortunately, most of these structures are incapable of attacking enemies that are out of their depth range. For instance, a Black Octopi Heavy Laser that's stationed on the ocean floor will be incapable of shooting any enemy subs that are positioned directly above, leaving nearby structures defenseless. While some defensive structures won't have this limitation, you'll need to position those that do properly to ensure their usefulness. For most of the missile or laser-based structures, the optimum depth would be on a third-level mountain or outcropping, enabling them to fire at any targets coming their way, if not at those that pass over them.

Of course, the terrain will also be affected by these changes in depth. You'll notice hills, mountains, and even land bridges on the maps that will affect how you construct your base and move your ships.

You'll need to mold your base to the terrain near your starting point. In general, it's best to keep your Basic, Supply, and Special structures grouped together on the ocean floor, protected by any defensive structures on nearby hills. Keep in mind that most attacks will be coming from the sides of your structures; if you can build them with one or two sides blocked off by a higher elevation, they'll gain protection from the hill and you'll have less need to defend them. By extension, if enemy ships are unable to maneuver properly due to the terrain around your base, you'll have an easier time defending.

The terrain of the map will also affect the movement of your subs. If your ships are moving along a lower depth, they'll be forced to move upwards (which they'll do automatically) if they encounter hills or mountains. Some mountains actually reach the fifth depth level, creating obstacles that you'll need to move around rather than over.

Adding another level of complexity to the mix are the land bridges. These arches extend high above the ocean floor, creating natural bridges that your subs will have to move under. While your subs are moving underneath these bridges, they will still appear on sonar, but they will be hidden from view when you position your viewscreen above the bridge. In addition, these units will be invisible to your opponents' nearby ships. In combination with a structure that protects your ships from enemy sonar, such as the White Shark Disperser, you can lay devastating traps for your enemies with strategic use of land bridges.

Damage Calculation

In general, the player that's capable of both dealing and withstanding the most damage will be the winner. However, there are other factors involved in calculating damage, such as rate of fire and movement rate. Most military submarines and defensive structures are strong in some factors and weak in others. For this reason, most players will need to mix and match their forces to obtain a balance of units that will support each other and cancel out their respective weaknesses.

Here is a more detailed list of battle factors that you should consider when building a fleet or defensive formation:

Arms: The armament of a ship or structure determines how much damage it can deal to an opponent with each successful hit. Early units will not be capable of meting out much harm, but as you research new technologies, you'll be able to increase the damage potential of older units and build new units that will have much more powerful weapons.

Speed: Speed isn't a huge factor in most battles, where subs will go head-to-head and fight until one side's fleet is destroyed. However, faster moving subs will be better-able to dodge incoming fire as they move past enemy structures and subs, and they'll also be quicker to respond when an enemy fleet attacks your base.

Ammo: Many subs and structures carry ammunition with them. While the specifics are different for each faction, you can see the type and how much ammunition a unit is carrying in the bottom-left corner of your screen (or bottom-right in the case of a structure). If you build your fleet entirely out of ships that all use one type of ammo, you may find yourself with a fleet incapable of attacking if your munitions factory runs out of that ammunition. Black Octopi ships with lasers need plenty of power, and White Sharks need plenty of torpedoes for their ships, and so on. Ships and structures that have their own internal ammunition supplies are generally more expensive to build than ships that don't, but will not need their ammunition replenished.

Firing Delay: After firing a weapon, your units will have to wait a few seconds before their lasers are recharged, another torpedo is loaded, etc. Units with low reload times will be able to deal damage rapidly, but will usually have fairly low power per shot. In comparison, larger, more expensive ships will be able to deal much more power per shot, but will have to wait longer between shots.

While these basic statistics are common to almost all units capable of dealing damage, savvy players will note that some subs and structures have different methods of dealing damage or otherwise hurting the opponent, such as paralysis, shielding, or electromagnetic charges. A brief explanation of these modifiers is included below.

Paralyzation: The Silicon Paralysis Probe and the Black Octopi Avenger are capable of paralyzing enemy subs, rendering them incapable of movement. Your ships will continue to fire on paralyzed ships until they're destroyed, but if you act quickly, you may be able to capture the stranded ship before the paralysis wears off (in the case of the Paralysis Probe, the Avenger's effect is permanent unless the ship is repaired).

Electromagnetism: The Black Octopi are capable of building electromagnetic torpedoes that will slowly degrade a ship, eventually resulting in its destruction unless it's completely repaired.

Ion Reflectors: The Silicons can build an Ion Reflector, a structure that will reflect a percentage of damage dealt to it by torpedoes and shells back upon the attacker.

Remote Shielding: The Black Octopi and Silicons can both build structures that will create shields around nearby objects. Each of these structures has a different effect. For instance, the Black Octopi Protective Shield Generator will create a field that will reduce damage to nearby friendly submarines, while the Silicon Ion Field Generator will cut the damage to any two friendly structures by half.

Appendix 1: Structural Statistics

White Sharks					
Building Name	**Build Time**	**Hit Points**	**Metal Req.**	**Corium Req.**	**Technological Requirement**
SubCenter	90	2000	1800	0	No Prerequisite
RepCenter	30	1500	700	0	No Prerequisite
ArmCenter	40	1200	900	400	No Prerequisite
TechCenter	60	1000	1400	300	No Prerequisite
Sonar	15	1500	800	0	Long Range Sonar
InfoCenter	60	700	500	0	Research Enemy Cipher Key
CyberCenter	60	600	600	0	Cyber Technology
Air Extractor	15	500	500	0	No Prerequisite
TradeCenter	40	1000	800	0	No Prerequisite
Metal Extractor	15	500	200	0	No Prerequisite
Corium Extractor	15	500	300	0	No Prerequisite
Depot	40	800	300	0	No Prerequisite
Gold Extractor	15	500	600	0	No Prerequisite
HF Cannon	20	1600	500	40	Hydro-Fusion Technology
SToLP	30	1800	800	80	Medium-Torpedo Technology
Ultrasonic Generator	25	500	600	300	Ultrasonic Technology
Plasma Cannon	30	1200	900	1000	Plasma Cannon Technology
TranCenter	90	1500	1500	500	Teleportation Technology
Disperser	20	800	800	100	Disperser Screen Technology
Shark Control	25	500	500	0	Shark Control Technology
Psychotron	45	800	900	300	Psy-Technology
Plasmatron	60	700	600	1000	Corium 296
TLS	60	600	1000	2000	Thermo-Nuclear Technology
Teleshield	60	700	600	200	Teleshield

Black Octopi

Building Name	Build Time	Hit Points	Metal Req.	Corium Req.	Technological Requirement
Dockyard	90	2000	1800	0	No Prerequisite
Repair Dock	30	1500	700	0	No Prerequisite
Munitions Factory	40	1200	1000	400	No Prerequisite
Research Laboratory	60	1000	1400	300	No Prerequisite
Asdic	15	800	700	0	Long Range Asdic
CentComp	60	700	500	0	Research Enemy Cipher Key
Power Station	30	500	500	250	Research Energy Supply
Cyber Laboratory	30	500	600	200	Cyber Technology
O2 Sublimator	15	500	500	0	No Prerequisite
Market	60	1000	700	0	No Prerequisite
Metal Mine	15	500	200	0	No Prerequisite
Corium Mine	15	500	300	0	No Prerequisite
Silo	40	800	300	0	No Prerequisite
Gold Sublimator	15	500	600	0	No Prerequisite
Light Laser	200	1200	400	50	Light Laser Technology
Magnetic-Mine Launcher	25	1600	600	120	Magnetic-Mine Technology
Heavy Laser	30	1400	800	100	Gas-Laser Technology
Electro-Magnetic Launcher	30	1300	700	80	Electro-Magnetic Torpedoes
Teleporter	90	1500	1500	450	Teleportation Technology
Anti-Sonar Shield	20	800	800	100	Disperser Screen Technology
Protective Shield Generator	40	500	1000	400	Protective Screen Technology
Power Protector	90	800	1800	1000	Energy Shield
Laser Bomb Launcher	60	500	1000	3000	Laser Bomb Technology

Silicons

Building Name	Build Time	Hit Points	Metal Req.	Corium Req.	Technological Requirement
Command Hub	45	2000	1200	300	No Prerequisite
CHub Mobility Module	60	500	600	200	No Prerequisite
CHub Intelligence Module	60	500	600	200	No Prerequisite
CHub Super-tech Module	60	500	600	200	No Prerequisite
CHub Energy Module	60	500	600	200	No Prerequisite
CHub Structure Module	60	500	600	200	No Prerequisite
CHub Regeneration Module	60	500	600	200	No Prerequisite
CHub Submarine Module	60	500	600	200	No Prerequisite
Arsenal	45	1200	900	400	No Prerequisite
Protoplasm Generator	90	1800	1500	0	No Prerequisite
Replenish Pod	30	700	600	50	No Prerequisite
BioSonar Station	30	700	600	50	BioSonar Technology
Silicon Extractor	30	600	700	0	No Prerequisite
Corium Collector	20	500	400	0	No Prerequisite
Corium Silo	20	500	300	0	No Prerequisite
Energy Accumulator	30	800	800	0	No Prerequisite
Energy Converter	40	1200	800	200	Transform Corium to Energy
Recyclotron	45	1100	1000	200	Annihilation Technology
Polarized Plasma Pulsar	20	1000	500	50	Polarized Plasma Pulsar
Soliton Oscillator	30	700	800	500	Soliton Oscillator
Gas Shell Launcher	25	1400	600	120	Gas Shell Launcher
Double Plasma Turret Gun	20	1300	600	100	Double Plasma Turret Gun
Ion Reflector	30	1300	700	200	Ion Reflector (25% Screen)
Jump-Mine Launcher	35	1000	900	300	Jump-Mine Launcher
Bio-Mine Launcher	35	1200	800	350	Bio-Mine Launcher
Parcher	35	1400	900	350	Parcher
Gate	60	1300	1000	150	Teleportation Gate
Ion Field Generator	50	1000	900	400	Ion Field Generator
Molecular Repair Facility	90	900	1000	500	Molecular Repair Facility
GLS Launcher	50	1200	1100	2000	Gas Laser Satellite
Vacuum Bomb Launcher	90	700	800	3000	Vacuum Bomb
Quantum Paralyzer	60	800	1000	600	Quantum Paralyzer

Appendix 2: Submarine Statistics

White Sharks

Name	Hit Points Weapon #1 Name Weapon #2 Name	Speed Range Range	Build Time Ammo Ammo	Metal Req. Delay Delay	Corium Req	Technological Prerequisite
TranSub	400 None None	6 N/A N/A	20 N/A N/A	600 N/A N/A	0	No Prerequisite
Constructor	800 None None	6 N/A N/A	30 N/A N/A	1000 N/A N/A	0	No Prerequisite
RepSub	800 None None	6 N/A N/A	30 N/A N/A	800 N/A N/A	0	Mobile RepSub
Sentinel	300 Light HF Shells None	12 5 N/A	20 N/A N/A	200 1.5 N/A	40	No Prerequisite
Hunter	500 Small Torpedoes None	9 5 N/A	30 20 N/A	400 2.5 N/A	80	No Prerequisite
Cruiser	1300 Large Torpedoes None	9 5 N/A	70 30 N/A	1000 4.5 N/A	300	Large Torpedo Technology
Marauder	1200 Small Torpedoes None	9 5 N/A	40 20 N/A	800 4 N/A	100	Marauder Equipment
DC Bomber	1000 Small Torpedoes DC Bombs	6 5 5	50 20 80	800 4 5	250	Depth Bomb Technology
Liberator	700 Small Torpedoes None	9 5 N/A	60 20 N/A	700 4 N/A	150	Anti-Phantom Technology
Mine-Layer	800 Small Torpedoes Depth Mines	9 5 1	40 20 10	700 4 Variable	90	Depth-Mine Technology
Terminator	800 High Plasma Charge None	6 5 N/A	60 N/A N/A	1000 5 N/A	1200	Plasma Generator
CyberWorm	1000 None None	6 N/A N/A	30 N/A N/A	200 N/A N/A	20	Cyber Technology

Black Octopi

Name	Hit Points Weapon #1 Name Weapon #2 Name	Speed Range Range	Build Time Ammo Ammo	Metal Req. Delay Delay	Corium Req	Technological Prerequisite
Cargo Sub	400 None None	6 N/A N/A	20 N/A N/A	600 N/A N/A	0	No Prerequisite
Assembler	800 None None	6 N/A N/A	30 N/A N/A	1000 N/A N/A	0	No Prerequisite
Repair Platform	800 None None	6 N/A N/A	30 N/A N/A	900 N/A N/A	0	Mobile Repair Platform
Fighter	400 Small Torpedoes None	12 5 N/A	20 20 N/A	300 2.5 N/A	50	No Prerequisite
Destroyer	600 Splinter Torpedoes None	9 5 N/A	40 40 N/A	500 2.5 N/A	80	Splinter Torpedo Technology
Heavy Cruiser	1500 Ruby Laser None	6 5 N/A	70 30 N/A	1200 3 N/A	300	Ruby Laser Technology
Raider	1300 Light Laser None	9 5 N/A	40 20 N/A	700 4 N/A	60	Raider Equipment
Invader	800 Cassette Shells None	9 5 N/A	50 30 N/A	800 3.5 N/A	150	Cassette-Shell Technology
Phantom	700 Ruby Laser None	9 5 N/A	60 20 N/A	1000 2.5 N/A	250	Phantom Equipment
Defender	900 Small Torpedoes Laser Snares	6 5 3	40 20 10	700 4 N/A	80	Laser Snare Technology
CyberDolphin	1000 None None	12 N/A N/A	35 N/A N/A	400 N/A N/A	200	Cyber Technology
Avenger	900 Light Laser Paralyzing Rays	9 5 5	60 30 N/A	1200 2.5 10	200	Paralyzing Rays Technology
Stealth Scout	300 None None	12 N/A N/A	20 N/A N/A	500 N/A N/A	40	Stealth Scout Technology

Silicons

Name	Hit Points Weapon #1 Name Weapon #2 Name	Speed Range Range	Build Time Ammo Ammo	Metal Req. Delay Delay	Corium Req	Technological Prerequisite
Capsule-Prototype	800 None None	6 N/A N/A	7 N/A N/A	50 N/A N/A	0	No Prerequisite
Transport	500 None None	6 N/A N/A	15 N/A N/A	100 N/A N/A	0	No Prerequisite
Supplier	600 None None	6 N/A N/A	40 N/A N/A	400 N/A N/A	0	No Prerequisite
Replenisher	600 None None	6 N/A N/A	40 N/A N/A	600 N/A N/A	40	Energy Transmitter
Explorer	200 None None	9 N/A N/A	20 N/A N/A	200 N/A N/A	40	High-Range Explorer
SHS Sub	300 Energy Shells None	12 5 N/A	20 30 N/A	300 3 N/A	50	No Prerequisite
Escort	500 Ion Cassette Shells None	9 5 N/A	45 20 N/A	800 5 N/A	180	Ion Cassette Shells
Dreadnought	1500 BHE Shells None	6 5 N/A	50 20 N/A	1000 5 N/A	110	BHE Shells
Bio-Acid Assaulter	900 BioAcid Shells Acoustic Mines	6 5 1	60 25 10	700 3 N/A	200	Bio-Acid Shells
Usurper	1200 Energy Shells None	9 5 N/A	40 30 N/A	500 3 N/A	100	Enemy Capture
Paralysis Probe	400 Neuro-Shells None	12 5 N/A	70 20 N/A	600 5 N/A	400	Neuro-Paralysis Shells
Vermin	700 Energy Shells None	9 5 N/A	40 30 N/A	600 2 N/A	150	Psy-Shield
BioCollector	600 None None	6 N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A	Molecular Repair Facility

Appendix 3: Weaponry Statistics

Name	Used By L1 Damage	L1 Prod. Time L2 Damage	L2 Prod. Time L3 Damage	Corium Cost L4 Damage	Max Storage L5 Damage
Small Torpedo	WS, BO 50	2 70	1 90	1 110	100 120
Medium Torpedo	WS 80	4 100	2 130	2 150	100 180
Large Torpedo	WS 90	5 120	2 150	3 170	100 200
Electromagnetic Torpedo	BO 400	5 500	2 -	3 -	100 -
Laser Snare	BO 800	20 -	10 -	50 -	20 -
Light Laser	BO 60	- -	- -	- -	- -
Ruby Laser	BO 120	- -	- -	- -	- -
Gas Laser	BO 200	- -	- -	- -	- -
Cassette Mother-shell	BO 120	4 -	2 -	3 -	100 -
Cassette Shell	BO 70	- -	- -	- -	- -
Light HF Shell (subs)	WS 30	- 80	- -	- -	- -
Heavy HF Shell (structures)	WS 70	- 120	- -	- -	- -
Laser Bomb Head	BO 2000	120 -	- -	1000 -	1 -
Laser Bomb Charge	BO 2000	120 -	- -	1000 -	1 -
High Plasma Charge	WS 600	- -	- -	- -	- -
Gas Shell	SI 150	3 -	1 -	3 -	100 -
Splinter Torpedo	BO 60	3 150	2 -	2 -	100 -
Energy Shell	SI 40	- 60	- 100	- -	- -
Ion Cassette Mother-shell	SI 120	- 140	- 160	- -	- -
Ion Cassette Shell	SI 20	- 30	- 40	- -	- -
Bio-Acid Shell	SI 400	4 600	2 -	4 -	50 -
Neuro-Shell *Paralyzation Duration:*	SI 10 *30 Seconds*	16 20 *40 Seconds*	8 30 *50 Seconds*	40 30 -	20 - -
Gas Laser Satellite	SI 800	- -	- -	- -	- -

Appendix 3: Weaponry Statistics (continued)

Name	Used By L1 Damage	L1 Prod. Time L2 Damage	L2 Prod. Time L3 Damage	Corium Cost L4 Damage	Max Storage L5 Damage
High-temperature Plasma Shell	SI 100	- 120	- 160	- -	- -
Polarized Plasma Shell	SI 80	- 120	- 150	- -	- -
BHE Shell	SI 300	6 -	3 -	5 -	100 -
Depth Bomb	WS 300	12 -	6 -	4 -	100 -
Ultrasonic Field	WS 25	- -	- -	- -	- -
Soliton Field	SI 30	- -	- -	- -	- -
Self-guided Energy Shell	SI 400	- 500	- 600	- -	- -
Jump Mine	SI 200	5 -	2 -	4 -	50 -
Depth Mine	WS 1000	20 -	10 -	50 -	20 -
Acoustic Mine	SI 950	20 -	10 -	60 -	20 -
Nuke	WS 2000	180 -	- -	2000 -	5 -
Bio-Mine	SI 150	4 -	2 -	4 -	50 -
Magnetic Mine	BO 350	12 -	6 -	5 -	50 -
Paralyzing Rays (Avenger)	BO 20	- -	- -	- -	- -
Vacuum Bomb	SI 1000	120 -	- -	2000 -	1 -

Submarine TITANS

HOT KEY COMMANDS

Pause
Pause/continue the game

Ctrl+S
Quick save

Ctrl+L
Quick load

Alt+X
Exit to Main Menu

Alt+Q
Quit Game

Escape
Escape

Y
Confirm "Yes"

N
Confirm "No"

Up
Scroll up

Down
Scroll down

Left
Scroll left

Right
Scroll right

Space
Scroll to last report

Tab
Switch activity of objects

Pad -
Zoom out of the play field (3 levels available)

Pad +
Zoom into the play field (3 levels available)

Pad /
Switch between the 4 different camera views clockwise

Pad *
Switch between the 4 different camera views counterclockwise

Ctrl + 1 … 0
Set currently selected units as a selection group. Can also be used to add or remove units from a pre-set group.

1 … 0
Select a pre-set group

Shift+F1 … F10
Set the map area in the play window as a pre-set area to view

F1 … F10
Select a pre-set area to view

Pad 1 … 5
Move the selected objects to one of the 5 depth levels

Enter
Send message

Shift+Enter
Send message to all (in multiplayer game only)

Alt+Enter
Send message to allies (In multiplayer game only)

Ctrl+Enter
Send message to enemies (in multiplayer game only)

F11
Send client request for waiting (in multiplayer game only)

F12
Clear messages area

Ctrl+Alt+C
Take a screenshot

Submarine Titans is very flexible when it comes to keyboard shortcuts, mouse control, and other configurations. To change configuration run the Submarine Titans Configuration program.

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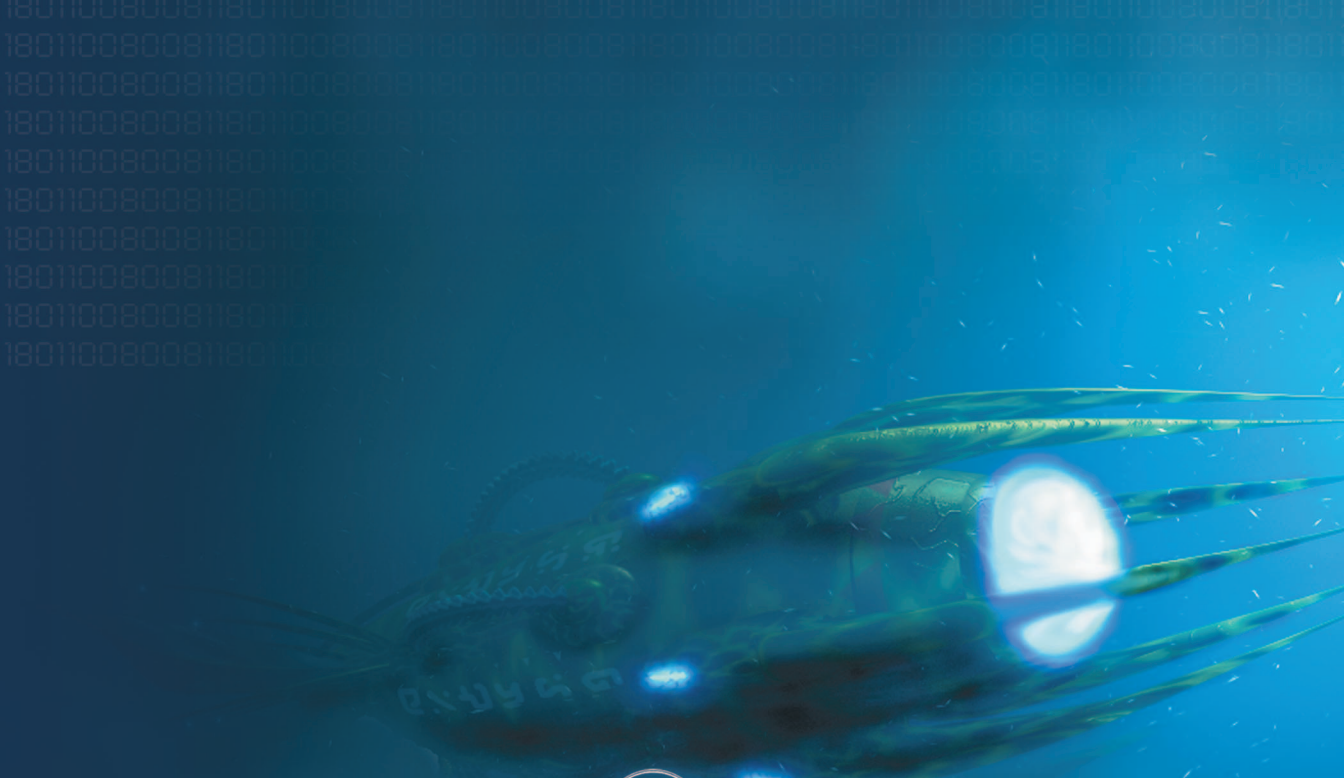
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